FORT BLISS WATER DISTRIBUTION SYSTEM

Fort Bliss

El Paso, Texas

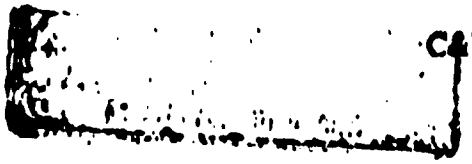
ENERGY ENGINEERING ANALYSIS PROGRAM (EEAP)

FINAL SUBMITTAL

August, 1994

Prepared by:

CARTER & BURGESS, INC.
Engineers • Planners • Surveyors
3880 Hulen Street
Fort Worth, Texas 76133



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DEPARTMENT OF THE ARMY

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17 Sep 1997

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Distribution A. Approved for public release.

Marie Wakefield,
Librarian Engineering

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ENERGY ENGINEERING ANALYSIS PROGRAM (EEAP) for FORT BLISS WATER DISTRIBUTION SYSTEM EEAP

I. NARRATIVE

A. Purpose

The purpose of this study is to analyze the existing system and an alternate method of peak electrical demand shaving for the water distribution system at Fort Bliss, Texas. The existing system will be referred to as Alternative #1 throughout the report. Alternative #2 includes the addition of water storage capacity in order to allow the well and booster pumps to operate only during non-peak electrical periods.

This report is prepared in accordance with the scope of work for Contract No. DACA63-93-M-1259, Purchase Request No. FED-MO-0093-0101 (Refer to Appendix M for complete scope of work) and is a continuation of a report conducted in February, 1993 by Carter & Burgess. All pertinent data from the previous report is represented in this report. With the addition of the detailed KY Pipe Analysis. The blast Life Cycle Cost In Design (LCCID) program with the ECIP option was used to determine the Life Cycle Cost (LCC) and Savings to Investment Ratio (SIR) for the analyzed retrofit for a 20 year study life.

B. System Description

The existing water distribution system consists of 17 well pumps and 5 booster pumping stations. The desert field well and booster pumps were not included in this study due to their remote location. The well and booster pumps provide water supply to several ground elevated storage tanks located across the reservation (Refer to Appendix N for map indicating general locations). These storage tanks are located to provide three pressure zones. The upper

pressure zone is maintained by a one million gallon tank. The intermediate pressure zone is maintained by a 0.6 million gallon tank. Pressure in the lower zone is maintained by three (3) elevated storage tanks.

C. Analysis Of Present Energy Consumption

In order to establish the energy consumption of the existing water distribution system, El Paso Electric supplied 30-minute measured KW demand values as well as utility bills for the entire base for the period from September 1991 through August 1992 (Refer to Appendix B for this data). This data was used to determine the peak electrical demand day for the entire base which El Paso Electric utilizes for billing purposes each month. Next, the Williams Electric Automated Control System was utilized to download the pump run-time data for each pump, for each of the peak days during the 12-month period previously identified (Refer to Appendix E for this data). Using the run-time data and the KW demand for each pump, the total pumping system electrical demand was calculated and subtracted from the base electrical demand and plotted with the total base demand (Refer to Appendix C for these graphs). These graphs represent the maximum demand savings possible through modification of the water distribution system. These graphs were then used to determine the maximum peak shaving potential, and the most advantageous operating period for the peak shaving methods. Example energy calculations along with a narrative description are included in Appendix D. The total peak shaving potential for the pumping system was determined to be 3,138 KW/YR (Refer to Appendix E for calculations). The most advantageous period for peak shaving is between 10:00 a.m. and 3:00 p.m. daily (Refer to Appendix C).

D. Analysis of Present Water Consumption

1. Purpose

The purpose of the water distribution system modeling was to determine the additional water storage requirements needed to operate the system with distribution and well pumps turned-off during the hours of 10:00 am to 3:00 pm.

2. Proposed Water Demands

Existing pumping records for distribution and well pumps for the periods between March 1993 and February 1994 for the Fort Bliss and William Beaumont Army Medical Center (WBAMC) systems were analyzed. The well pumping data was utilized to represent the average daily demand. The average day well pumpage rate was 3.21 MGD.

The peak day well pumpage occurred on June 16, 1993 and was 6.95 MGD. Hourly pumping records were unavailable for the wells and distribution system pumps.

Tank level information was not available. It is reasonable to assume the average daily and peak day pumpage corresponds to the water demands within the system. Hourly records of pumping or tank levels are not available. Hourly electrical power usage by pump (from Energy Engineering Analysis Program report prepared by Carter and Burgess, dated February 1993) was used to evaluate the diurnal water demands. The peak day pumping records for July 23, 1992 are presented in the table contained in Appendix F. A graph of the diurnal demand for July 23, 1992 is also contained in Appendix F. The maximum hour usage occurred at 10:00 pm.

3. Analysis

The KY pipe computer file for the base model was supplied by Fort Bliss and was developed for a previous study performed by Texas A&M University in March of 1991. The total peak day demand in the modeling was 11.13 MGD. The base file with the 11.13 MGD peak day demand was modified to reflect future growth in the water system. Point source demands for the Van Horn and Logan Heights Additions were added to the model. The peak day water consumption used for Van Horn and Logan Heights are 0.80 MGD and 1.95 MGD respectively. Also, the water demand at the Hospital was increased by 25 percent. The total peak day demand model was 13.89 MGD.

Several different demand conditions were modeled with the Fort Bliss water distribution system model for steady state conditions including:

- Peak Day Demands
- Peak Day Demands with all pumps off
- Maximum Hour Demands (using a 1.7 peak day to maximum hour ratio)
- Tank Filling during Low Demand Periods (using a 0.70 peak day to late evening/early morning demand ratio)

For the demand conditions listed above several scenarios were evaluated to further refine the system. Peak day and maximum hour demands were modeled with existing pumping capabilities and

proposed pumping replacements. Several iterations were performed for the tank filling scenario to evaluate the existing pumps and the ability of the system to fill the tanks and provide supply to the system. From analysis of the computer modeling and calculations it was determined that additional pumping and storage capacity would be necessary to operate the system as proposed. Specific details of the system, pumps and tanks are discussed below.

a. System

The pressure in the system ranged from the low 20's to the upper 80's, in psi. The middle pressure plane consistently had the lowest pressures. The nodes on the suction side of the pump stations had pressures between 3 and 8 psi for all demand conditions. Since no services are connected near these areas, this condition is acceptable. Logan Heights and Van Horn Additions were modeled as point source loads on the system. The model indicated very low pressures at these points. It is assumed these areas will have booster pumps and possibly multiple taps to the system to adequately boost pressures.

Head losses varied across the system. One line was identified for replacement due to high head losses. The 10 inch line from Tank 7090 parallel to Fred Wilson Road, then following Sternberg to Tank 7241 needs to be increased to a minimum of 12 inches.

b. Pumping

With the system changes of additional storage tanks and pumping occurring outside the hours of 10:00 am and 3:00 pm the ability of the system to refill the storage tanks becomes critical. The amount of pumping required for the tank filling consists of supply for the pressure plane, the supply demand for the next pressure plane, and supply to replenish the storage tanks. The tank filling pumping rate was determined for each pressure plane and compared to flowrate into each tank determined in the computer model. The middle and lower pressure plans are deficient in pumping capacity.

Computer models including the proposed new, larger pumps were made to evaluate the system for peak day, maximum hour and tank filling. The proposed pump replacements result in

adequate pressures and flows, and the tanks can be refilled in a reasonable amount of time.

The flowrates determined in each of the modeling scenarios were used with projected demands to analyze the system hourly for a 24 hour period. This data is presented in the Tank balance tables contained in Appendix G. The flowrates into the tanks were used in the Tank balance sheets and the hourly pumping rate was used for the outgoing storage. The outgoing storage flowrates exceeded the demand requirements in the model. Therefore the pumping from the tanks is adequate for all conditions modeled.

c. Tanks

The tank balances discussed in the previous section were also used to determine the amount of storage capacity required. It has been assumed that the tanks are to maintain one-half capacity or greater, as directed by Fort Bliss Public Works. From the water storage balance prepared for Tank 7241, 1.1 MG of capacity is required to operate between full and it's projected lowest point of 554,667 gallons. The storage balance prepared for the Tank 7090/7088 operates between full (2.5 MG) and its projected lowest point of 1.7 MG. A storage balance for the lower pressure plane indicates elevated storage of 4.5 MG is required, and 4.6 MG is currently available. Therefore, additional elevated storage is not necessary in the lower pressure plane. A storage balance was also performed for the upper pressure plane indicating the 1.0 MG of storage was adequate.

A storage balance was performed for the storage tanks feed by the wells. It is contained in Appendix G. The storage does not balance at the end of 24 hours. Therefore, on a peak day condition the tanks will have a loss of capacity of 203,000 gallons at the end of the day. An analysis of the well pumping and well storage was not a part of this contract. However, this condition may be acceptable to the Public Works Department or replacement of a well pump may be possible.

4. Results

Additional water storage capacity of 0.75 MG is recommended in the vicinity of Tanks 7241, to supply the upper pressure plane with ground

storage and provide elevated storage to the middle pressure plane. Additional water storage capacity is recommended in the vicinity of Tanks 7090/7088, to provide ground water supply to the middle pressure plane in the event supply from the lower pressure plane is interrupted. Interruption of the supply could include a broken pipeline, inoperative pumps, or if supply to the lower pressure plane was temporarily interrupted.

Additional pumping of 1200 gpm is needed to refill the proposed tank near Tank 7241. Since no pumping will occur during the hours of 10:00 am to 3:00 pm, the meeting of the domestic demands as well as filling of storage tanks is required in the remaining hours. In order to refill all the elevated storage in the lower pressure plane and Tanks 7090/7088 and the proposed .25 MG tank and additional pumping of 3500 gpm is required at the Pike Pump Station.

A summary of the recommended water system capital improvements required for electrical peak shaving is listed in the table below.

Summary of Capital Improvements for Water Distribution System	
Improvement	**Location**
New 0.75 MG Storage Tank	Middle Pressure Plane (near tank 7241)
Replacement of pump #2 with 2800 gpm pump	WBAMC Station #7242
Replacement of 10" line with 12" line (approx 3300 LF)	Service line from 7090 to 7241
New .25 MG Storage Tank	Middle Pressure Plane (near tanks 7088/7090)
Replacement of pump #2 with 5800 gpm pump	Pike Station #1318

E. Analysis Of Previous Studies

The previous studies below, as well as the Carter & Burgess study conducted February 1993, were referenced and evaluated in the preparation of this report.

Reference No 1. Fort Bliss Water Distribution System Analysis and System Operations, prepared by Wesley P. James and Veronica Morgan, Department of Civil Engineering, Texas A&M University, College Station, TX 77843.

Reference No. 2. Energy Savings Opportunity Survey, Fort Bliss, Texas, Water Distribution Study, prepared by Williams E. Evers, Jr., P.E., EDM Engineering, St. Louis, MO 63101.

Reference No. 1 was conducted to ensure that the existing water distribution system is adequate to maintain acceptable pressures during peak hour operation plus fire demand. The report concluded that a minimum pressure of 27 psi would occur during the peak day plus fire demand.

Reference No. 2, which is similar to this study. Analyzed methods of peak shaving as follows;

1) Addition of diesel pump sets to be utilized during on-peak periods.

2) Addition of 7-8 million gallons of storage capacity to allow for off-peak pumping only.

This report concluded that neither option was feasible and both resulted in savings to investment ratio's of less than 1.0 However, this study used demand charges of $16.03 per kilowatt (KW) for the first 10,000 KW and $15.72/KW thereafter. The current electrical demand charge for Fort Bliss (ECO'S) is $21.50/KW for all KW.

F. Analysis Of Energy Conservation Opportunities (ECO's)

1. Increase Storage Capacity (Alternative #2)

The addition of 1.0 million gallons of storage tank capacity was analyzed. The existing storage capacities for all of the tanks at Fort Bliss are listed in Appendix F. The size and location of the new storage tanks were based on the results of the KY pipe analysis discussed and are as follows;

WBAMC:	Middle	.75 MG
	Lower	.25 MG
Total		1.0 MG

This additional storage capacity will allow the well and booster pumps to be shut-off during on-peak utility periods. The existing Williams Electric Control system would be utilized to disable the pumps during specified peak periods. Software changes only would be required to accomplish the added functions using the existing control system.

G. Life Cycle Cost Calculations

Life Cycle economic feasibility of the existing system in comparison with the peak shaving method described above was calculated using the Blast, Life Cycle Cost In Design (LCCID) program. This program with the ECIP option utilized the energy consumption calculated and included in Appendix C and E. Data for the LCCID Feasibility study are as follows:

1. Construction Cost Estimate

The probable construction cost estimates for the two ECO alternatives are as follows:

Alternative	Investment
1 - Existing System	-0-
2 - Additional Storage	$558,932

Refer to Appendix J for the detailed probable cost estimate.

2. Maintenance Cost Estimate

The Maintenance Cost difference with Alternative #1 as the baseline for the two ECO alternatives are as follows:

Alternative	Annual Maintenance Cost
1 - Existing System	-0-
2 - Additional Storage	$1,178

Refer to Appendix K for Maintenance Cost Calculations.

3. Replacement Cost Estimate

The Replacement Cost Estimate assumes the concurrent salvage value is zero ($0.00).

a. Tank Replacement Costs

Tank life is expected to be a minimum of 40 years based on numerous existing steel tanks which were constructed between 1910-1954 which are still in use; therefore, the replacement cost for the additional tanks is assumed to be zero dollars ($0.00).

4. Final Salvage Value

The Final Salvage Value for all systems is assumed to be zero dollars ($0.00).

5. Utility Rates

Utility Type	Utility Cost	Site Cost
Electricity Usage	$.00764/KWH	$2.24/MBTU
Electrical Demand	$21.50/KW	-
Natural Gas	$2.58/KCF	$2.50/MBTU

The utility costs were furnished by El Paso Electric and Southern Union Gas. The site cost was obtained using a Conversion Factor of .003413 MBTU/KWH and 1.031 MBTU/KCF.

6. Refer to Appendix L for the ECIP Life Cycle Cost Analysis Summary Sheets for Alternative 2.

H. Conclusions

The results of this study indicate that increased storage capacity for the Fort Bliss Water Distribution System will result in an SIR of 1.45, a simple payback of 9.3 years and an negative Adjusted Internal Rate of Return (AIRR) of 6.0%.

I. Recommendations

The recommendation resulting from this study is for Fort Bliss to install the storage capacity, pumping capacity and increased piping recommendd herein. Also, Fort Bliss should make the necessary changes to the Williams Electric Controls System to ensure that air pumps are scheduled "off" between the hours of 10:00 am and 3:00 pm.

Carter & Burgess' assessment was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by professional consultants. The findings of this study are based on the information available at the time. The results and recommendations presented in this report could be affected by items such as those listed below.

- Availability of more detailed historical water use records, particularly tank level records.
- Major changes in the water demands in Fort Bliss and William Beaumont Army Medical Center systems
- Changes in the location or intensity of growth and development within Fort Bliss
- Regulatory changes enacted after publication of this report

2. Criteria

1. OCE Architectural and Engineering
Instructions Design Criteria
November 20, 1990

2. Memorandum CEHSC-FU-M
Energy Conservation Investment Program (ECIP)
Guidance
November 4, 1992

3. TM 5-802-1
Economic Studies for Military construction Design Applications
December 1986

APPENDIX A - Utility Rate Schedules

EL PASO ELECTRIC COMPANY

SCHEDULE NO. 31
MILITARY RESERVATION SERVICE RATE

APPLICABILITY

Available to United States Army for Fort Bliss Main Post Area for a minimum contract capacity of 10,000 kilowatts. All service will be taken at the point of delivery designated by the Company.

TERRITORY

El Paso County, Texas

TYPE OF SERVICE

Service will be alternating current 60 hertz, three phase at the transmission voltage of 115,000 volts.

MONTHLY RATE

Demand Charge

$21.50 per kilowatt for the first 10,000 kilowatts or less of Demand (I)

$21.50 per kilowatt for all additional kilowatts of Demand (I)

Energy Charge

$0.00764 per kilowatt-hour for all kilowatt-hours (I)

MONTHLY MINIMUM

Demand charge for the Minimum Contract Capacity of 10,000 kilowatts or the applicable minimum demand charge, whichever is greater.

DETERMINATION OF DEMAND

Maximum demand will be defined as the highest measured thirty (30) minute average kilowatt load determined by measurement. The measured demand will be adjusted for billing when the metering adjustment clause is applicable. (T)

The demand used for billing shall never be less than 75% of the highest measured on-peak demand (adjusted for metering adjustment) established during billing months May through October in the twelve (12) month period ending with the current month, nor less than the minimum contract capacity, whichever is greater. The exception to this will occur when the 1.2 on-peak + 1.2 off-peak provision is invoked. At that time, the measured billing demand shall be used for the purpose of this paragraph.

When the demand established during the off-peak period exceeds the demand established during the on-peak period, the demand used for billing will be 1.2 the on-peak period demand plus 1.2 the off-peak period demand.

On-peak period shall be from 10:00 A.M. to 8:00 P.M. Mountain Standard Time for weekdays of Monday through Friday. Off-peak period shall be all other hours of the week not covered in the on-peak period.

EL PASO ELECTRIC COMPANY

SCHEDULE NO. 31
MILITARY RESERVATION SERVICE RATE

RATING PERIOD SELECTION OPTION

Upon written request by the customer and approval by the Company a customer may shift his 10-hour peak period for billing purposes by two (2) hours around the normally defined on-peak period. The customer may exercise this option twice during a twelve (12) month billing period.

METERED ADJUSTMENT

A. El Paso Electric Company metering equipment is installed on the low voltage (14.4 KV) side of substation transformation. Therefore, for billing purposes, (1) the metered kilowatt demands shall be increased by 1.035% and (2) the metered kilowatt-hour usages shall be increased by 0.825%. For purposes of this adjustment, the Ben Milam School kilowatt demand and kilowatt-hour usage shall be subtracted from the Fort Bliss kilowatt demand and kilowatt-hour usage before the adjustment.

B. Ben Milam School. Ben Milam School is located within the Fort Bliss Military Reservation but is a school of the El Paso Independent School District. Presently Ben Milam School is serviced through Fort Bliss facilities. To compensate Fort Bliss for this usage, El Paso Electric Company shall deduct from Fort Bliss' demand billing Ben Milam's actual measured demand and energy each month.

POWER FACTOR ADJUSTMENT

If the power factor at the time of the highest measured thirty (30) minute interval kilowatt demand for the entire plant is below 90% lagging, a charge of $0.0700 per KVAR will be made for each KVAR by which customer's computed KVAR demand exceeds 48.432% of the measured kilowatt demand. If the power factor is greater than or equal to 90%, then no power factor adjustment will be made. (T)

FIXED FUEL FACTOR

The above rates are subject to the provisions of Company's Tariff Schedule No. 92 entitled Fixed Fuel Factor.

TERMS OF PAYMENT

The due date of the bill for utility service shall not be less than sixteen (16) days after issuance. A bill becomes delinquent if not received at the Company by the due date.

TERMS AND CONDITIONS

The Company's Rules and Regulations apply to service under this schedule. The Term of Contract under this schedule shall not be less than ten (10) years.

PUBLIC UTILITY COMMISSION OF TEXAS
APPROVED
MAR 09 '92 DOCKET 9945
CONTROL # 10963
TARIFF CLERK

El Paso Electric Company
P.O. Box 982
El Paso, Texas 79960
(915) 543-5711

January 20, 1993

Mr. Scott Clark
Carter & Burgess Engineering
1100 Macon St.
Ft. Worth, Texas 76102

Dear Scott:

As of the present time, El Paso Electric Company does not have any firm rebate programs in place with the exception of Thermal Energy Storage.

Presently, there are incentive (rebate) programs being developed by El Paso Electric Company and we should have more specifics on those around April, 1993. These rebates may be customized towards energy efficient lighting and energy efficient motors for example.

As soon as more details and specifics are known I will be happy to pass them on to you. But for now, T.E.S. is the only incentive program being offered by El Paso Electric Company.

I hope that the enclosed materials will satisfy your needs. If you should have any further questions please feel free to call me at (915) 543-5609.

Sincerely,

John D. Armstrong

John D. Armstrong
Commercial Utilization Specialist

C

Southern Union Gas

Requested Transmittal Time: _____
Transmitted by: _____

Date: Aug 14 1992

GASFAX

To: Scott Chesl

Company/Region: _____

FAX No. 817-877-5646 Phone No. _____

From: John R Reid

Message: Per Schedule 1A Cost of gas adj is expected to remain the same next month at 10¢/MCF

This facsimile consists of 4 pages including this form letter.
If you do not receive all the pages of this transmission, PLEASE CONTACT OUR TELECOPIER OPERATOR IMMEDIATELY.

Southern Union Gas
West Texas Region – El Paso
P. O. Box 2040
El Paso, TX 79976-2040
(915) 544-6300
FAX: (915) 531-4560

SOUTHERN UNION GAS COMPANY
Rate Sheet
EL PASO, TEXAS
SERVICE AREA

Texas Tariff - West Texas
Section 3
Rate Schedule No. E5

FORM 752-701 8-79

FORT BLISS RATE

APPLICABILITY

Applicable to the United States Government for all purposes at Fort Bliss, William Beaumont General Hospital, Biggs Field, Logan Heights, The First Cavalry Brigade Area, the Station Hospital, Permanent Troop Housing and Supporting Facilities and AFF Board No. 4 and Guided Missile Group and Training Facilities located east of Jeb Stuart Road.

RATE

During each monthly billing period the sum of items 1 and 2 below:

1. Cost of Service Charge:

   All Gas @ $.0258 per Ccf @ 14.9 PSIA.

2. Cost of Gas Charge: In addition to the Cost of Service set forth above, Ft. Bliss billing shall include an amount equal to the Cost of Gas per billing month as determined in accordance with Rate Schedule No. 1-1. Cost per Ccf will be determined at 14.9 PSIA and multiplied by total Ccf consumed during the billing month.

CONDITIONS

1. In case of shortage of natural gas supply, or any other emergency not due to fault of the contractor, deliveries of gas hereunder may be curtailed in accordance with contractor's program of curtailment applicable to its consumers in the City of El Paso and Environs.

2. Volume of gas shown by meter readings will be corrected to 14.9 pounds per square inch absolute. Atmospheric pressure is agreed to be 12.8 pounds.

3. Subject to existing contract.

Supersedes same sheet dated 08/01/90

SOUTHERN UNION GAS COMPANY
Rate Sheet

Texas Tariff - West Texas
Section 3
Rate Schedule No. 1A

SERVICE AREA El Paso

ADJUSTMENTS TO BASIC RATE
City of El Paso, Texas and El Paso Environs

The following adjustments shall be applied to the price for each Ccf delivered to customers served by the West Texas Region in the El Paso County rate area (including the towns of Anthony, Vinton and Clint, Texas), under the basic rate schedules indicated below:

Basic Rate Schedules	Basic Rate Effective Date	Customer Class	Previous Adjustment	Change In Adjustment	Total Present Adjustment
10	01/15/92	Residential Service Rate	$ .1362	$ .0000	$ .1362
20	01/15/92	Commercial Service Rate	$ .1362	$ .0000	$ .1362
21	01/15/92	Commercial Air Conditioning Service	$ .1362	$ .0000	$ .1362
25	01/15/92	Public Authority Rate	$ .1362	$ .0000	$ .1362
26	01/15/92	Public Authority Air Conditioning Service	$ .1362	$ .0000	$ .1362
27	01/15/92	Municpal Water Pumping Rate	$ .1362	$ .0000	$ .1362
30	01/15/92	Irrigation Rate	$ .1362	$ .0000	$ .1362
40	01/15/92	Industrial Service Rate	$ .1362	$ .0000	$ .1362
41	01/15/92	Industrial Air Conditioning Service	$ .1362	$ .0000	$ .1362
1E	04/01/91	Residential Service - El Paso Environs	$ .1362	$ .0000	$ .1362
2E	04/01/91	Commercial Service Rate El Paso Environs	$ .1362	$ .0000	$ .1362
2A	04/01/91	Commercial Air Conditioning Environs	$ .1362	$ .0000	$ .1362

Supersedes Same Sheet Dated 04/29/92

Meters Read On and After

SOUTHERN UNION GAS COMPANY
Rate Sheet

SERVICE AREA El Paso

Texas Tariff - West Texas
Section 3
Rate Schedule No. 1A

ADJUSTMENTS TO BASIC RATE
City of El Paso, Texas and El Paso Environs
(Continued)

2E	04/01/91	Public Authority Rate El Paso Environs	$ .1362	$ .0000	$ .1362
2F	04/01/91	Public Authority Air Conditioning Environs	$ .1362	$ .0000	$ .1362
2G	04/01/91	Municipal Water Pumping Rate-El Paso Environs	$ .1362	$ .0000	$ .1362
3E	04/01/91	Irrigation Rate El Paso Environs	$ .1362	$ .0000	$ .1362
4E	04/01/91	Industrial Service Rate-El Paso Environs	$ .1362	$ .0000	$ .1362
4A	04/01/91	Industrial Air Conditioning Environs	$ .1362	$ .0000	$ .1362
C1	08/07/86	Electrical Cogeneration Energy Conservation	$ .1362	$ .0000	$ .1362
E5	08/01/90	Fort Bliss	$ .1493	$ .0000	$ .1493

Supersedes same sheet dated 04/29/92

Water Rend On and After

APPENDIX B - Fort Bliss Base Utility Bills

El Paso Electric Company
PO Box 982
El Paso Texas 79960
(915) 543 5711

September 18, 1992

RECEIVED
SEP 23 1992

Mr. Scott Clark
Carter & Burgess Engineering
1100 Macon St.
Ft. Worth, Texas 76102

Dear Scott:

Enclosed are the materials that you had requested regarding Ft. Bliss. I have provided you 20 months of billing information and 18 months of load data.

The load data are provided in four separate files. These files are named Bliss1, Bliss2, Bliss3 and Bliss4 with the .WK3 extension and are described by the following:

1. Bliss1.WK3 - March 1, 1991 to June 30, 1991 on 30 minute intervals.
2. Bliss2.WK3 - July 1, 1991 to December 31, 1991 on 30 minute intervals.
3. Bliss3.WK3 - January 1, 1992 to April 31, 1992 on 30 minute intervals.
4. Bliss4.WK3 - May 1, 1992 to August 31, 1992 on 30 minute intervals.

Also, there is an accompanying sheet providing the times and dates of system peak information. Demands occurring at these times for Ft. Bliss would be the facility's coincident peak demands.

I hope that the enclosed materials will satisfy your needs. If you should have any further questions please feel free to call me at (915) 543-5809.

Sincerely,

John D. Armstrong

John D. Armstrong
Commercial Utilization Specialist

PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATZC-ISE-N BLDG 1288
FORT BLISS TX 79916

SERVICE: 14,980,478 KWH @ $0.00764/KWH — $114,450.85
ADJUSTED KWH = (14,868,000 - 10,100) x 1.00825

DEMAND: 28,386 KW @ $21.50/KW — ~~$610,299.00~~ $382.98
FACTOR ADJUSTMENT BASED ON 19,128 KVAR

ADJUSTMENT: 14,980,478 KWH @ $0.01441/KWH — $215,668.69

TOTAL — ~~$825,332.83~~ $914,001.52

	DAY	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	FROM DAY	TO DAY	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
01	31	83	28198	28386	7-31-92	8-31-92	PORT BLISS	PORT BLISS	2146150001

PRESENT DAY	PRESENT READING	PREVIOUS DAY	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
8-31	04387	7-31	03913	474	16800	7,963,200
8-31	03566	7-31	03155	411	16800	6,904,800
8-31	00352	7-31	00352	0	8400	0
8-31	00113	7-31	00012	101	100	10,100
28198		OFF PEAK KW =	27958			

DEPT OF THE ARMY
INSTAL SUPPORT
E-N BLDG 1288
ISS TX 79916

CURRENT ELECTRIC SERVICE	$941,001.52	CURRENT SERVICE $941,001.5
DOCKET NO 7460 RATE CASE EXPENSE	$31,022.00	DOCKET NO 7460 $31,022.0
DOCKET NO 9945 RATE CASE EXPENSE	$9,448.00	DOCKET NO 9945 $9,448.0
TOTAL AMOUNT DUE	$981,471.52	TOTAL AMT DUE $981,471.5

CHARGES OF $981,471.52 ARE DUE BY 9/23/92.

TEXAS UTILITY GROSS RECEIPTS ASSESSMENT EQUALS 1/6 OF 1%.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO TEXAS 79998

El Paso Electric Company
PHONE (915) 543 5711

INVOICE: 15,325,077 KWH @ $0.00764	$117,083.59	DEPARTMENT OF THE ARMY
ESTED KWH = 1.00825 x (15,204,000 - 4320)		DIR OF INSTAL SUPPORT
		ATZC ISE N BLDG 1288
I DEMAND: 28559 KW @ $21.50/KW	$614,018.50	FORT BLISS TX 79916
FACTOR ADJUSTMENT BASED ON 19405 KVAR	$399.25	
DJUSTMENT: 15,325,077 KWH @ $0.01441/KWh	$220,834.36	
TOTAL	$952,335.70	

RATE	DAYS	POWER FACTOR	DEMAND READING	DEMAND BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
I-01	31	82	28290	28559	6-30-92	7-31-92	FORT BLISS	FORT BLISS	2146150000

PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
7-31	03913	6-30	03429	484	16800	8,131,200
7-31	03155	6-30	02734	421	16800	7,072,800
7-31	00352	6-30	00352	0	8400	0
7-31	03807	6-30	03729	78	40	3,120
7-31	00012	7-15	00000	12	100	1,200
28290		OFF PEAK KW =	27898			

ENT OF THE ARMY	CURRENT ELECTRIC SERVICE	$952,335.70
INSTAL SUPPORT	DOCKET NO 7460 RATE CASE EXPENSE	$31,022.00
E-N BLDG 1288	DOCKET NO 9945 RATE CASE EXPENSE	$9,448.00
.ISS TX 79916		
	TOTAL AMOUNT DUE	$992,805.70

CURRENT SERVICE	$952,335.7
DOCKET NO 7460	$31,022.0
DOCKET NO 9945	$9,448.0
TOTAL AMT DUE	$992,805.7

AGES OF $992,805.70 ARE DUE BY 8/24/92. CURRENT CHARGES NOT PAID BY DUE DATE
' TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 2000
EL PASO TEXAS 79960

PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATZC-ISE-M BLDG 1288
FORT BLISS TX 79916

VICE: 14,427,009 KWH @ $0.00764/KWH $110,222.35
TED KWH = 1.00825 x (14,313,600 - 4,640)

DEMAND: 27,599 KW @ $21.50/KW $593,378.50
CFOR ADJUSTMENT BASED ON 17851 KVAR $321.25

USTMENT: 14,427,009 KWH @ $0.01441/KWH $207,893.20

TOTAL $911,815.30

	RATE	POWER FACTOR	READINGS MTR ID	READING	DATES FROM	TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
I	31	84	27599	27599	5-29-92	6-30-92	FORT BLISS	FORT BLISS	2146150001

RATE	TOU READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
6-30	03425	5-29	02574	455	16800	7,644,000
6-30	02734	5-29	02337	397	16800	6,669,600
6-30	00352	5-29	00352	0	8400	0
6-30	03729	5-29	03613	116	40	4,640
ON PEAK KW =	27302	OFF PEAK KW =	26530			

NT OF THE ARMY	CURRENT ELECTRIC SERVICE	$911,815.30	CURRENT SERVICE $911,815.30
INSTAL SUPPORT	DOCKET NO 7460 RATE CASE EXPENSE	$31,022.00	DOCKET NO 7460 $31,022.00
8-M BLDG 1288	DOCKET NO 9945 RATE CASE EXPENSE	$9,448.00	DOCKET NO 9945 $9,448.00
ISS TX 79916			
	TOTAL AMOUNT DUE	$952,285.30	TOTAL AMT DUE $952,285.30

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 7050
EL PASO, TEXAS 79999

CHARGES OF $952,285.30 ARE DUE BY 7/23/92. CURRENT CHARGES NOT PAID BY DUE & SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

EL PASO ELECTRIC COMPANY
PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATTN:ATZC-ISE-H BLDG1288
FT BLISS TX 79916

ENERGY:	11,471,385 KWH @ $0.00754/KWH		$87,641.38
2D CMH = 1.00825 x (11,390,400 - 12,880)			
DEMAND:	24,766 KW @ $21.50/KW		$532,469.00
PF ADJUSTMENT BASED ON 14,755 KVAR			$199.39
TAXES:	11,471,385 KWH @ $0.01441/KWH		$165,302.66
		TOTAL	$785,612.43

	RATE	POWER FACTOR	DEMAND ORDERED	DEMAND USED	DATE FROM	DATE TO	SERVICE ADDRESS	MAILING ADDRESS	ACCOUNT NUMBER
01	31	86	24584	24766	4-30-92	5-29-92	FORT BLISS	FORT BLISS	2146150000

PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
5-29	07974	4-30	02604	370	16,800	6,216,000
5-29	02337	4-30	02029	308	16,800	5,174,400
5-29	00352	4-30	00352	0	8,400	-0-
5-29	03613	4-30	03291	322	40	12,880

ON PEAK KW = 24584 OFF PEAK KW = 23936

DEPT OF THE ARMY	CURRENT ELECTRIC SERVICE	$785,612.43	CURRENT SERVICE $785,612.4
INSTAL SUPPORT	DOCKET NO 7460 RATE CASE EXPENSE	$31,022.00	DOCKET NO 7460 $31,022.0
ZC-ISE-H BLDG1288	DOCKET NO 9945 RATE CASE EXPENSE	$9,448.00	DOCKET NO 9945 $9,448.0
S TX 79916	PREVIOUS UNPAID BALANCE	$1,000.00	PREV UNPD BALANCE $1,000.0
	TOTAL AMOUNT DUE	$827,082.43	TOTAL AMT DUE $827,082.4

PLEASE RETURN THIS PORTION WITH YOUR PAYMENTS TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20992
EL PASO TEXAS 79998

CHARGES OF $826,082.43 ARE DUE BY 6/23/92.

PO BOX 20982
EL PASO TEXAS 79998
PHONE (915) 543-5711

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
DIR OF INSTAL. SUPPORT
ATTN:ATZC-ISE-N BLG1208
FT BLISS TX 79916

N SERVICE:	11,436,015 KWH @ $0.00764/KWH	$87,371.15	
ADJUSTED KWH =	1.00825 x (11,356,800 - 14,360)		
LING DEMAND:	23,762 KW @ $21.50/KW	$510,883.00	
ER FACTOR ADJUSTMENT BASED ON 13837 KVAR		$168.43	
. ADJUSTMENT:	11,436,015 KWH @ $0.01441/KWH	$164,792.98	
	TOTAL	$763,215.56	

CHAR NBR	RATE	POWER FACTOR	METERED MEASURED	METERED BILLING	FROM	DAY	TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
1500-01	31	86	23602	23762	3/31/92		4/30/92	FORT BLISS	FORT BLISS	2146150001

S SP	PRESENT DAY	PRESENT READING	PREVIOUS DAY	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
1902	4/30	02604	3/31	02238	366	16800	6,148,800
1215	4/30	02029	3/31	01719	310	16800	5,208,000
1295	4/30	00352	3/31	00352	0	8400	0
1746	4/30	03291	3/31	02932	359	40	14,360

ON PEAK KW = 23602 OFF PEAK KW = 23452

	CURRENT ELECTRIC SERVICE	$763,215.56	CURRENT SERVICE $763,215.56
MENT OF THE ARMY	DOCKET NO 7460 RATE CASE EXPENSE	$31,022.00	DOCKET NO 7460 $31,022.00
INSTAL SUPPORT	DOCKET NO 9945 RATE CASE EXPENSE	$9,448.00	DOCKET NO 9945 $9,448.00
ATZC-ISE-N BLG1208			
SS TX 79916			
	TOTAL AMOUNT DUE	$803,685.56	TOTAL AMT DUE $803,685.56

T CHARGES OF $803,685.56 ARE DUE BY 5/22/92.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79998

PO BOX 20932
EL PASO, TEXAS 79998
PHONE (915) 543 5711

EL PASO ELECTRIC COMPANY

SERVICE:	12,195,227 @ $0.007682187/KWH	$93,686.01
ADJUSTED KWH = 1.00825 x (12,112,800 - 17,360)		
DG DEMAND:	22355 KW @ $21.50/KW	480,632.50
ADJUSTMENT:	12,195,227 KWH @ $0.01441/KWH	175,733.22

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-N BLDG1288
FORT BLISS TX 79916

TOTAL $750,051.73

RDG SEQ	DATE	POWER FACTOR	READING MEASURED	READING BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	MAILING ADDRESS	ACCOUNT NUMBER
00-01	31	91	22182	22355	2-28-92	3-31-92	FORT BLISS	FORT BLISS	7146150001

	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
05	3-31	02238	2-28	01869	369	16800	6,199,200
15	3-31	01719	2-28	01382	337	16800	5,661,600
95	3-31	00352	2-28	00322	30	8400	252,000
46	3-31	02932	2-28	02498	434	40	17,360
AK KW = 22182			OFF PEAK KW =		21924		

ENT OF THE ARMY
R OF INSTAL SUPPORT
E-N BLDG1288
ISS TX 79916

CURRENT ELECTRIC SERVICE	$750,051.73
DOCKET NO 7460 RATE CASE EXPENSES	31,022.00
DOCKET NO 9945 RATE CASE EXPENSES	9,448.00
TOTAL AMOUNT DUE	$790,521.73

CURRENT SERVICE	$750,051.73
DOCKET NO 7460	31,022.00
DOCKET NO 9945	9,448.00
TOTAL AMT DUE	$790,521.73

CHARGES OF $790,521.73 ARE DUE BY 4/23/92. CURRENT CHARGES NOT PAID BY
E ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20932
EL PASO, TEXAS 79998

EL PASO ELECTRIC COMPANY
PO BOX 20662
EL PASO, TEXAS 79998
PHONE (915) 542-5711

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
DIR OF INSTAL SUPPORT
ATTN:ATZC-ISE-H BLDG 1288
FT BLISS TX 79916

MAIN SERVICE:	11,158,666 KWH @ $0.00779	$86,926.01	
ADJUSTED KWH = 1.00825 x (11,088,000 - 20,640)		495,661.00	
BILLING DEMAND:	23054 KW @ $21.50	160,796.38	
FUEL ADJUSTMENT:	11,158,666 KWH @ $0.01441		
	TOTAL	$743,383.39	

ACCOUNT NUMBER	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLED	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
1-1500-01	31	91	22906	23054	1-31-92	2-28-92	FORT BLISS	FORT BLISS	21461500

METER NUMBER	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSUMP	KWH
94905	2-28	01069	1-31	01517	352	16,800	5,913,600
85215	2-28	01382	1-31	01074	308	16,800	5,174,400
82295	2-28	00322	1-31	00322	-0-	8,400	0
92746	2-28	02498	1-31	01932	516	40	20,640
	ON PEAK KW = 22906			OFF PEAK KW = 22576			

ATMENT OF THE ARMY	CURRENT ELECTRIC SERVICE	$743,383.39	CURRENT SERVICE	$743,383.
OF INSTAL SUPPORT	DOCKET NO. 7460 RATE CASE EXPENSE	31,022.00	DOCKET NO. 7460	31,022.
:ATZC-ISE-H BLDG 1288				
&LISS TX 79916	TOTAL AMOUNT DUE	$774,405.39	TOTAL DUE	$774,405.

ANY CHARGES OF $774,405.39 ARE DUE BY 3/24/92. CURRENT CHARGES NOT PAID
ON DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH
YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX [illegible]
EL PASO, TEXAS 799[illegible]

EL PASO, TEXAS 79999
PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-N BLDG 1288
FORT BLISS, TX 79916

KW SERVICE:	12,513,996 KWH @ $0.00779		$ 97,484.03
ADJUSTED KWH = 1.00025 X (12,432,000 - 20,400)			
BILLING DEMAND:	23744 KW @ $21.50/KW		510,496.00
FEL ADJUSTMENT:	12,513,996 KWH @ $0.01441/KW		180,326.68
		TOTAL	$788,306.71

RATE CODE	RATE	METER FACTOR	READING MEASURED	READING BILLED	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
500-01	31	91	23603	23744	12-31-91	1-31-92	FORT BLISS	FORT BLISS	2146150001

METER NO	TIME OF DAY	READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
905	1-31	01517	12-31	01100	417	16,800	7,005,600
215	1-31	01074	12-31	00751	323	16,800	5,426,400
295	1-31	00322	12-31	00322	0	8,400	0
746	1-31	01982	12-31	01472	510	40	20,400

ON PEAK KW = 23602 OFF PEAK KW = 23603

RTMENT OF THE ARMY
CTOR OF INSTAL SUPPORT
-ISE-N BLDG 1288
BLISS, TX 79916

CURRENT ELECTRIC SERVICE	$788,306.71	TOTAL SERVICE $788,306.71
DOCKET NO. 7460 RATE CASE EXPENSES	31,022.00	DOCKET NO. 7460 31,022.00
DOCKET NO. 8588 FUEL REFUND	42,962.41CR	DOCKET NO. 8588 42,962.41
TOTAL AMOUNT DUE	$776,366.30	TOTAL AMT DUE $776,366.30

NT CHARGES OF $776,366.30 ARE DUE BY 2/24/92. CURRENT CHARGES NOT PAID BY DUE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79998

EL PASO, TEXAS 79960
PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL. SUPPORT
ATZC-ISE-N BLDG 1288
FORT BLISS TX 79916

ERVICE: 12,932,823 KWH @ $0.00546589/KWH		$70,689.39
ED KWH = 1.00825 X (12,843,600 - 16,600)		
DEMAND: 23411 KW @ $20.4418/KW		478,588.46
DJUSTMENT: 12,932,823 KWH @ $0.01441/KWH		186,361.98
RATE INCREASE:		46,358.42
TOTAL		$781,968.25

RT	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	MAILING ADDRESS	ACCOUNT NUMBER
001	31	91	23254	23411	11-27-91	12-31-91	FORT BLISS	FORT BLISS	2146150001

	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
005	12-31	01100	11-27	00682	418	16800	7,022,400
015	12-31	00751	11-27	00448	303	16800	5,090,400
995	12-31	00322	11-27	00235	87	8400	730,800
046	12-31	01472	11-27	01057	415	40	16,600

ON PEAK KW = 23254 OFF PEAK KW = 23044

ENT OF THE ARMY
R OF INSTAL SUPPORT
E-N BLDG 1288
ISS TX 79916

TOTAL ELECTRIC SERVICE	$781,968.25
DOCKET NO 7460 RATE CASE EXPENSE	31,022.00
DOCKET NO 8588 FUEL REFUND	42,962.41CR
PREVIOUS CREDIT BALANCE	1.00CR
TOTAL AMOUNT DUE	$770,026.84

TOTAL SERVICE	$781,968.25
DOCKET NO 7460	31,022.00
DOCKET NO 8588	42,962.41C
PREV CRE BAL	1.00C
TOTAL AMT DUE	$770,026.84

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79998

* CHARGES OF $770,026.84 ARE DUE BY 01/24/92.

EL PASO, TEXAS 79999
PHONE (915) 543-5711

VICE: 10,614,412 KWH @ $0.00340/KWH
KWH = 1.00825 X (10,542,000 - 14,440)

DEMAND: 23056 KW @ $19.50/KW

ENERGY: 10,614,412 KWH @ $0.01439/KWH

NTE INCREASE:

	$36,089.00
	449,592.00
	152,741.39
	84,994.18
TOTAL	$723,416.57

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATTN ATZC-ISE-H BLG1288
FORT BLISS TX 79916

RATE SCHEDULE	DATE	POWER FACTOR	DEMAND METERED	DEMAND BILLING	BILLING PERIOD FROM	BILLING PERIOD TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
31	31	91	22894	23056	10-31-91	11-27-91	FORT BLISS	FORT BLISS	2146150001

METER READING PRESENT DATE	METER READING PRESENT READING	METER READING PREVIOUS DATE	METER READING PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
11-27	00682	10-31	00302	380	16800	6,384,000
11-27	00448	10-31	00201	247	16800	4,149,600
11-27	00235	10-31	00234	1	8400	8,400
11-27	01057	10-31	00696	361	40	14,440

ON PEAK KW = 22894 OFF PEAK KW = 22774

TOTAL ELECTRIC SERVICE	$723,416.57
DOCKET NO 7460 RATE CASE EXPENSE	31,022.00
DOCKET NO 9165 RATE CASE EXPENSE	5,802.00
DOCKET NO 8585 FUEL REFUND	42,961.41CR
TOTAL AMOUNT DUE	$717,279.16

TOTAL SERVICE	$723,416.57
DOCKET NO 7460	31,022.00
DOCKET NO 9165	5,802.00
DOCKET NO 8585	42,961.41CR
TOTAL AMT DUE	$717,279.16

PAYMENTS OF $717,279.16 ARE DUE BY 12/24/91. CURRENT CHARGES NOT PAID BY DUE DATE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 20992
EL PASO, TEXAS 79998

PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-H BLDG 1288
FORT BLISS TX 79916

RVICE: 12,217,490 KWH @ $0.00360/KWH		$41,539.47
D KWH = 1.00825 X (12,129,000 - 12,080)		
DEMAND: 24065 KW @ $19.50/KW		469,267.50
ACTOR ADJUSTMENT BASED ON 13637 KVA		144.73
JUSTMENT: 12,217,490 KWH @ $0.01439/KWH		175,809.68
RATE INCREASE:		89,416.55
	TOTAL	$776,177.93

#	BASE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	BASE FROM	BASE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
101	31	87	23888	24065	9-30-91	10-31-91	FORT BLISS	FORT BLISS	2146150001

	PRESENT READING	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
10	10-31 00552	10-9 00000	302	16,800	5,073,600
15	10-9 07957	9-30 07827	130	16,800	2,184,000
12	10-31 00201	10-9 00000	201	16,800	3,376,800
11	10-9 01535	9-30 01446	89	16,800	1,495,200
13	10-31 00234	9-30 00234	0	8,400	0
16	10-31 00696	9-30 00304	302	40	12,080

TOTAL ELECTRIC SERVICE	$776,177.93	TOTAL SERVICE $776,177.9
DOCKET NO 7460 RATE CASE EXPENSE	31,022.00	DOCKET NO 7460 31,022.0
DOCKET NO 9165 RATE CASE EXPENSE	5,802.00	DOCKET NO 9165 5,802.0
DOCKET NO 8588 FUEL REFUND	42,962.41CR	DOCKET NO 8588 42,962.4
TOTAL AMOUNT DUE	$770,039.52	TOTAL AMT DUE $770,039.5

NT OF THE ARMY
T OF INSTAL SUPPORT
E-H BLDG 1288
LISS TX 79916

CHARGES OF $770,039.52 ARE DUE BY 11/21/91. CURRENT CHARGES NOT PAID BY DUE DATE ECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 20582
EL PASO, TEXAS 79998

PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-M BLDG1203
FORT BLISS TX 79916

MAIN SERVICE: 14,249,557 KWH @ $0.00340/KWH		$48,448.49
ADJUSTED KWH = 1.00025 X (14,145,600 - 12,640)		
BILLING DEMAND: 29,061 KW @ $19.50/KW		566,689.50
POWER FACTOR ADJUSTMENT BASED ON 18,549 KVAR		320.82
FUEL ADJUSTMENT: 14,249,557 KWH @ $0.01439/KWH		205,051.13
ORDER RATE INCREASE:		97,919.49
	TOTAL	$918,429.43

ACCOUNT NUMBER	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCT MAP
16150001	31	84	28836	29061	8-30-91	9-30-91	FORT BLISS	FORT BLISS	21461K

METER NUMBER	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
3794905	9-30	07827	8-30	07314	513	16,800	8,618,400
3585215	9-30	01446	8-30	01117	329	16,800	5,527,200
3082295	9-30	00234	8-30	00234	0	8,400	0
3492746	9-30	00394	8-30	00078	316	40	12,640
	ON PEAK KW = 28,836			OFF PEAK KW = 27,970			

TOTAL ELECTRIC SERVICE	$918,429.43	TOTAL SERVICE $918,429.
DOCKET NO 9165 RATE CASE EXPENSE	5,802.00	DOCKET NO 9165 5,802.
DOCKET NO 8588 FUEL REFUND	42,962.41CR	DOCKET NO 8588 42,967.
TOTAL AMOUNT DUE	$881,269.02	TOTAL AMT DUE $881,269

PAYMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-M BLDG1203
FT BLISS TX 79916

CURRENT CHARGES OF $881,269.02 ARE DUE BY 10/22/91. CURRENT CHARGES NOT PAID BY DUE DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79998

Company

PHONE (915) 543-5711

DEPARTMENT OF THE ARMY
DIRECTOR OF INSAL SUPPORT
ATZC-ISE-N BLDG 1288
FORT BLISS TX 79916

IN SERVICE: 15,409,649 KWH @ $0.00340/KWH		$52,392.81
JUSTED KVA = 1.00825 x (15,288,000 - 4,440)		
LING DEMAND: 29710 KW @ $19.50/KW		579,345.00
ER FACTOR ADJUSTMENT BASED ON 19025 KVAR		332.71
L ADJUSTMENT: 15,409,649 KWH @ $0.01653/KWH		254,721.50
ED RATE INCREASE:		76,691.52
	TOTAL	$963,483.54

COUNT NUMBER	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
150001	31	84	29468	29710	7-31-91	8-30-91	FORT BLISS	FORT BLISS	2146150

METER NO	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
94505	8-30	07314	7-31	06764	550	16800	9,240,000
85215	8-30	01117	7-31	00757	360	16800	6,048,000
82295	8-30	00234	7-31	00234	0	8400	0
75145	8-12	04852	7-29	04819	33	40	1,320
92746	8-27	00078	8-12	00000	78	40	3,120

ON PEAK KW = 29468 OFF PEAK KW = 28790

RTMENT OF THE ARMY	TOTAL ELECTRIC SERVICE	$963,483.54	TOTAL SERVICE $963,483.54
CTOR OF INSTAL SUPPORT	DOCKET NO 9165 RATE CASE EXPENSE	5,802.00	DOCKET NO 9165 5,802.00
-ISE-N-BLDG1288	DOCKET NO 8588 FUEL REFUND	42,962.41CR	DOCKET NO 8588 42,962.41
BLISS TX 79916	ADJUSTMENT *	43,036.00	ADJUSTMENT * 43,036.00
	TOTAL AMOUNT DUE	$969,359.13	TOTAL AMT DUE $969,359.13

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20892
EL PASO, TEXAS 79998

ENT CHARGES OF $920,323.13 ARE DUE BY 09/23/91. CURRENT CHARGES NOT PAID BY DUE ARE SUBJECT OF A 5 PERCENT LATE PAYMENT PENALTY.

BILL MAY-JULY DEMAND WITH CORRECT RATE

Prin 708,764.04
Int 211,757.09
Adj 43,036.00

EL PASO ELECTRIC COMPANY
PO BOX 20932
EL PASO, TEXAS 79998
PHONE (915) 543-5711

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-H-BLDG1288
FORT BLISS TX 79916

SERVICE: 16,434,757 KWH @ $0.00340/KWH		$55,878.17
STED KWH = 1.00825 X (16,304,400 - 4120)		
ING DEMAND: 29,395 KW @ $19.00/KW		558,505.00
R FACTOR ADJUSTMENT BASED ON 10,228 KVAR		288.72
. ADJUSTMENT: 16,434,757 @ $0.01653/KWH		271,666.53
TOTAL		$886,338.42

LINE NO	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	BILL PERIOD FROM	BILL PERIOD TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
001	31	09	29120	29395	6-28-91	7-31-91	FORT BLISS	FORT BLISS	2146150X

PERIOD	RATE	METER READING	PREVIOUS DATE	METER READING	DIFFERENCE	CONSTANT	KWH
05	7-31	06764	6-28	06191	573	16800	9,626,400
15	7-31	00757	6-28	00360	397	16800	6,669,600
95	7-31	00234	6-28	00233	1	8400	8,400
45	7-31	04819	6-28	04716	103	40	4,120
							16,434,757

ON PEAK KW = 29,120. OFF PEAK KW = 28,970

TOTAL ELECTRIC SERVICE		$886,338.42
DOCKET NO 9165 RATE CASE EXPENSE		5,802.00
DOCKET NO 8586 FUEL REFUND		42,962.41CR
TOTAL AMOUNT DUE		$849,178.01

EPT OF THE ARMY
R OF INSTAL SUPPORT
E-H BLDG1288
ISS TX 79916

TOTAL SERVICE	$886,338.
DOCKET NO 9165	5,802.
DOCKET NO 8586	42,962.
TOTAL AMT DUE	$849,178.

CHARGES OF $849,178.01 ARE DUE BY 08/22/91.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20932
EL PASO TEXAS 79998

EL PASO, TEXAS 79999
PHONE (915) 543-5711

EL PASO ELECTRIC COMPANY

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-H BLDG1208
FORT BLISS TX 79916

SERVICE: 13,449,771 KWH @ $0.00340/KWH	$45,729.23	
STED KWH = 1.00825 X (13,347,600 - 7,080)		
DEC DEMAND: 29,806 KW @ $19.00/KW	566,314.00	
% FACTOR ADJUSTMENT BASED ON 18863 KVAR	318.12	
ADJUSTMENT: 13,449,771 KWH @ $0.01653/KWH	222,324.75	
TOTAL	$834,686.10	

	BASE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	READ	RD	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
M	31	94	29564	29806	5-31-91	6-28-91	FORT BLISS	FORT BLISS	21461500

	PRESENT READING	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
	6-28 06191	5-31 05715	476	16800	7,996,800
	6-28 00360	5-31 00046	314	16800	5,275,200
	6-28 00233	5-31 00224	9	8400	75,600
	6-28 04716	5-31 04519	197	40	7,880
	ON PEAK KW = 29564	OFF PEAK KW = 29882			13,347,600

TOTAL ELECTRIC SERVICE	$834,686.10	TOTAL SERVICE: $834,686.10
DOCKET NO 9165 RATE CASE EXPENSE	5,802.00	DOCKET NO 9165 5,802.00
DOCKET NO 8508 FUEL REFUND	42,962.41CR	DOCKET NO 8508 42,962.41
TOTAL AMOUNT DUE	$797,523.69	TOTAL AMT DUE $797,525.69

TT OF THE ARMY
OF INSTAL SUPPORT
H BLDG1208
S TX 79916

CHARGES OF $797,525.69 ARE DUE BY 07/23/91. CURRENT CHARGES NOT PAID BY DUE DATE
CT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN: REVENUE PROCESSING
PO BOX 20962
EL PASO, TEXAS 79998

MAIN SERVICE: 13,504,944/RMH @ $0.00340/RMH	$45,916.81	DEPARTMENT OF THE ARMY
ADJUSTED RMH = (13,406,400 - 11,960) x 1.00825		DIRECTOR OF INSTAL SUPPORT
		ATZC-ISE-H BLDG 1288
BILLING DEMAND: 26,671 KW @ $19.00/KW	$10,549.00	FORT BLISS TX 79916
POWER FACTOR ADJUSTMENT BASED ON 16584 KVAR	256.64	
FUEL ADJUSTMENT: 13,504,944 KWH @ $0.01653/KWH	223,236.72	

TOTAL $779,959.17

ACCOUNT NUMBER	RATE	POWER FACTOR	DEMAND METERED	DEMAND BILLED	DATE FROM	DATE TO	SERVICE ADDRESS		SERVICE ADDRESS	ACCOUNT NUMBER
150301	31	85	26672	26671	4-30-91	5-31-91	FORT BLISS		FORT BLISS	21461500
USE NUMBER	RATE	PRESENT METER READING		PREVIOUS METER READING		DIFFERENCE	CONSTANT	KWH		
29305	5-31	05715		4-30	05234	481	16800	8,080,800		
95215	5-31	00046		4-30	09729	317	16800	5,325,600		
32795	5-31	00274		4-30	00274	0	8400	0		
75145	5-31	04519		4-30	04220	299	40	11,960		
								13,406,400		
ON PEAK KW = 26672				OFF PEAK KW = 25794						

TOTAL ELECTRIC SERVICE	$779,959.17	TOTAL SERVICE	$779,959.17
DOCKET NO 9165 RATE CASE EXPENSE	5,802.00	DOCKET NO 9165	5,802.00
DOCKET NO 8588 FUEL REFUND	42,962.41CR	DOCKET NO 8588	42,962.41
TOTAL AMOUNT DUE	$742,798.76	TOTAL AMT DUE	$742,798.76

RTMENT OF THE ARMY
CTOR OF INSTAL SUPPORT
-ISE-H BLDG1288
BLISS TX 79916

ANY CHARGES OF $742,798.76 ARE DUE BY 06/21/91. CURRENT CHARGES NOT PAID BY DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79998

Company

MAIN SERVICE: 12,437,570 KWH @ $0.00340/KWH — $42,287.74
ADJUSTED KWH = 1.00825 x (12,348,000 - 12,200)

BILLING DEMAND: 22,226 KW @ $19.50/KW — $433,407.00
POWER FACTOR ADJUSTMENT BASED ON 10895 KVAR — $29.61

FUEL ADJUSTMENT: 12,437,570 KWH @ $0.01653/KWH — $205,593.03

TOTAL — $681,317.38

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-N BLDG1288
FORT BLISS TX 79916

CHECK NUMBER	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	FROM	TO	SERVICE ADDRESS	MAILING ADDRESS	METER NUMBER
1830008	31	89	21599	22226	3-28-91	4-30-91	FORT BLISS	FORT BLISS	2146150

METER NUMBER	PREVIOUS DATE	PREVIOUS READING	PRESENT DATE	PRESENT READING	DIFFERENCE	CONSTANT	KWH
988505	4-30	05238	3-28	04798	438	16,800	7,358,400
805215	4-30	09729	3-28	09432	297	16,800	4,989,600
882295	4-30	00224	3-28	00224	0	8,400	0
755145	4-30	04220	3-28	03915	305	40	12,200
							12,348,000

PEAK KW = 21576 — OFF PEAK KW = 21622

TOTAL ELECTRIC SERVICE $681,317.38

DEPARTMENT OF THE ARMY
DIRECTOR OF INSTAL SUPPORT
ATZC-ISE-N BLDG1288
FORT BLISS TX 79916

DOCKET NO 9165 RATE CASE EXPENSE $5,802.00
DOCKET NO 8538 FUEL REFUND $42,962.41CR

TOTAL AMOUNT DUE $644,156.97

TOTAL SERVICE $681,317.3
DOCKET NO 9165 $5,802.0
DOCKET NO 8538 $46,962.4
TOTAL AMT DUE $644,156.9

CURRENT CHARGES OF $644,156.97 ARE DUE BY 05/22/91. CURRENT CHARGES NOT PAID BY DUE DATE ARE SUBJECT TO A 5 PERCENT LATE PAYMENT PENALTY.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20532
EL PASO, TEXAS 79998

Item 973224.35
Sub 1 1626361
Adj: 5802.00
644156.97

Company PHONE (915) 543-5711

E SERVICE:	10,351,904 KWH @ [illegible]/KWH	$35,196.47	DEPARTMENT OF THE ARMY
STED KWH = 1,008.25 X (10,281,[illegible] - 14,400)			DIRECTOR OF INSTAL SUPPORT
LING DEMAND:	22226 KW @ $18.50/KW	$[illegible]3,407.00	ATZC-ISE-H BLDG 1288
L ADJUSTMENT:	10,[illegible] KWH @ $0.01653/KWH	$171,116.97	FORT BLISS TX 79916

TOTAL $639,720.44

ACCT NO	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLED	FROM	TO	SERVICE ADDRESS	MAIL ADDRESS	ACCOUNT NUMBER
301	31	92	21440	22226	2-28-91	3-28-91	FORT BLISS	FORT BLISS	214615

	PRIMARY RATE	PRIMARY MEASURED	PRIMARY RATE	PRIMARY MEASURED	TOU PERIOD	CONSTANT	KWH
25	3-28	04706	2-28	04441	355	16,000	5,904,000
15	3-28	09432	2-28	09175	257	16,000	4,317,600
35	3-28	00224	2-28	00224	0	8,400	0
65	3-28	03915	2-28	03555	360	40	14,400

TOTAL ELECTRIC SERVICE	$639,720.44	TOTAL SERVICE $639,720.
DOCKET NO 9165 RATE CASE EXPENSE	$5,802.00	DOCKET NO 9165 $5,802.
DOCKET NO 8500 FUEL REFUND	$42,962.41CR	DOCKET NO 8500 $42,962.
TOTAL AMOUNT DUE	$602,560.03	TOTAL AMT DUE $602,560.

DEPT OF THE ARMY
T OF INSTAL SUPPORT
E-H BLDG 1288
ISS TX 79916

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20962
EL PASO, TEXAS 79998

[illegible] 1128.6347
1281 [illegible].56
$602.03

EL PASO, TEXAS 79960
PHONE (915) 543-5711

SERVICE: 10,013,899 KWH @ $0.00340	$34,047.26	DEPARTMENT OF THE ARMY
STED KWH = 1.00825 X (9,945,600 -13,640)		DIRECTOR OF INSTAL SUPPORT
DMD DEMAND: 22,226 KW @ $19.50/KW	$433,407.00	ATZC - ISE - N BLG 1288
ADJUSTMENT: 10,013,899 KWH @ $0.01653/KWH	$165,529.75	FORT BLISS TX 79916

TOTAL $632,984.01

	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	FROM	DAYS TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
)01	31	93	20,504	22,226	1-31-91	2-28-91	FORT BLISS	FORT BLISS	21461500

	PRESENT RDG DATE	PRESENT READING	PREVIOUS RDG DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
)5	2-28	04441	1-31	04105	336	16,800	5,644,800
15	2-28	08919	1-31	09175	256	16,800	4,300,800
)5	2-28	00224	1-31	00224	0	8,400	0
)5	2-28	03214	1-31	03555	341	40	13,640

KW = 20,504 OFF PEAK KW = 20,332

9,945,600 - 13,640

	TOTAL ELECTRIC SERVICE	$632,984.01
	DOCKET NO 9165 RATE CASE EXPENSE	$5,802.00
	DOCKET NO 8588 FUEL REFUND	$42,962.41CR
	TOTAL AMOUNT DUE	$595,823.60

TOTAL SERVICE	$632,984.01
DOCKET NO 9165	$5,802.00
DOCKET NO 8588	$42,962.41CR
TOTAL AMT DUE	$595,823.60

NT OF THE ARMY
R OF INSTAL SUPPORT
ISE - N BLG 1288
ISS TX 79916

CHARGES OF $595,823.60 ARE DUE BY 03/22/91.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO, TEXAS 79960

from 4674542
Jul 1 1123673
Id = 500.00

EL PASO ELECTRIC COMPANY
PO BOX 20987
EL PASO, TEXAS 79998
PHONE (915) 543-5711

EL PASO ELECTRIC COMPANY

SERVICE:	11,067.439 KWH @ $0.00340	$37,629.29	DEPARTMENT OF THE ARMY
TED KWH =	1.00825 x (10,987,200 - 10,320)		DIRECTOR OF INSTAL SUPPORT
KW DEMAND:	22,226 KW @ $19.50/KW	$433,407.00	ATZC-ISE-N BLG1288
ADJUSTMENT:	11,067,439 KWH @ $0.01653/KWH	$182,944.77	FORT BLISS TX 79916
	TOTAL	$653,981.06	

	RATE	POWER FACTOR	DEMAND MEASURED	DEMAND BILLING	DATE FROM	DATE TO	SERVICE ADDRESS	SERVICE ADDRESS	ACCOUNT NUMBER
201	31	93	20,773	22,226	12/31/90	01/31/91	FORT BLISS	FORT BLISS	2146150

	PRESENT DATE	PRESENT READING	PREVIOUS DATE	PREVIOUS READING	DIFFERENCE	CONSTANT	KWH
25	1/31	04105	12/31	03734	371	16,800	6,232,800
15	1/31	08919	12/31	08636	283	16,800	4,754,400
25	1/31	00224	12/31	00224	0	8,400	0
15	1/31	03214	12/31	02956	258	40	10,320

OR PEAK KW = 20,772 OR PEAK KW = 20,774

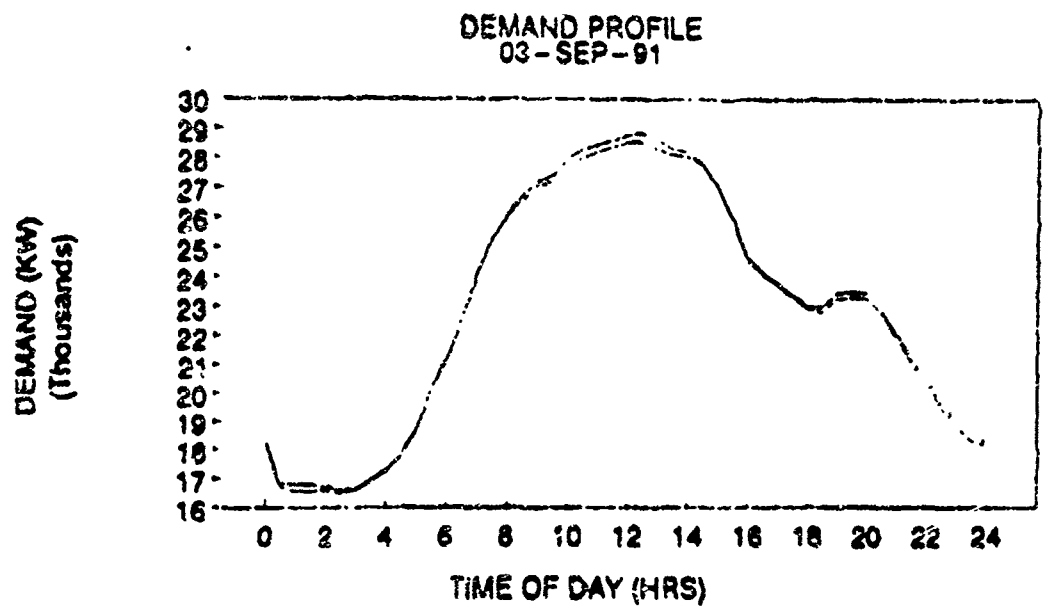
ENT OF THE ARMY	TOTAL ELECTRIC SERVICE	$653,981.06	TOTAL SERVICE $653,981.0
R OF INSTAL SUPPORT	DOCKET NO 9165 RATE CASE EXPENSE	$5,802.00	DOCKET NO 9165 $5,802.0
E-N BLG1288			
ISS TX 79916	TOTAL AMOUNT DUE	$659,783.06	TOTAL AMOUNT DUE $659,783.0

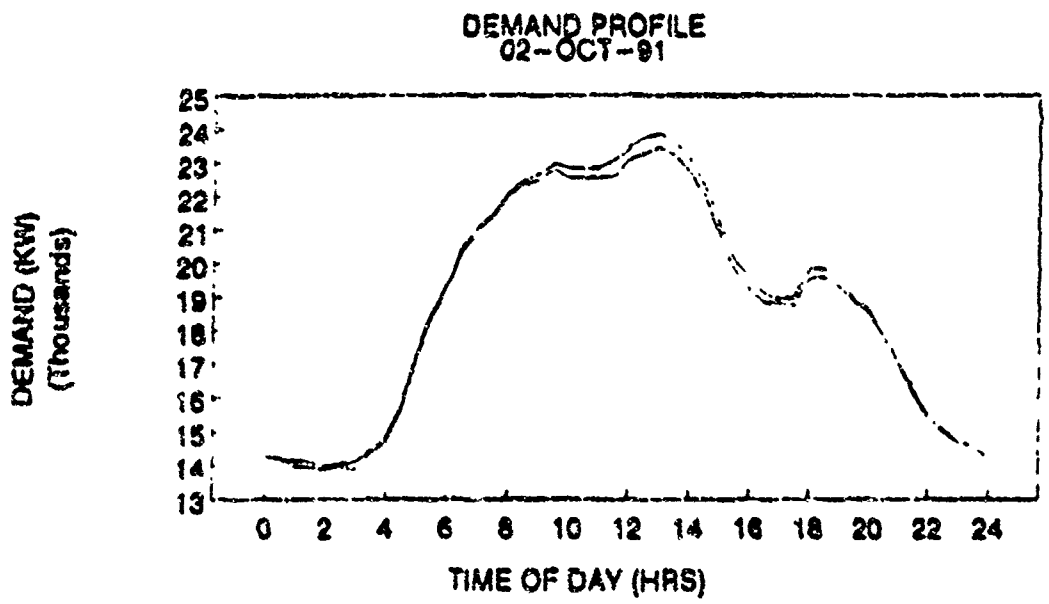
CHARGES OF $659,783.06 ARE DUE BY 02/22/91.

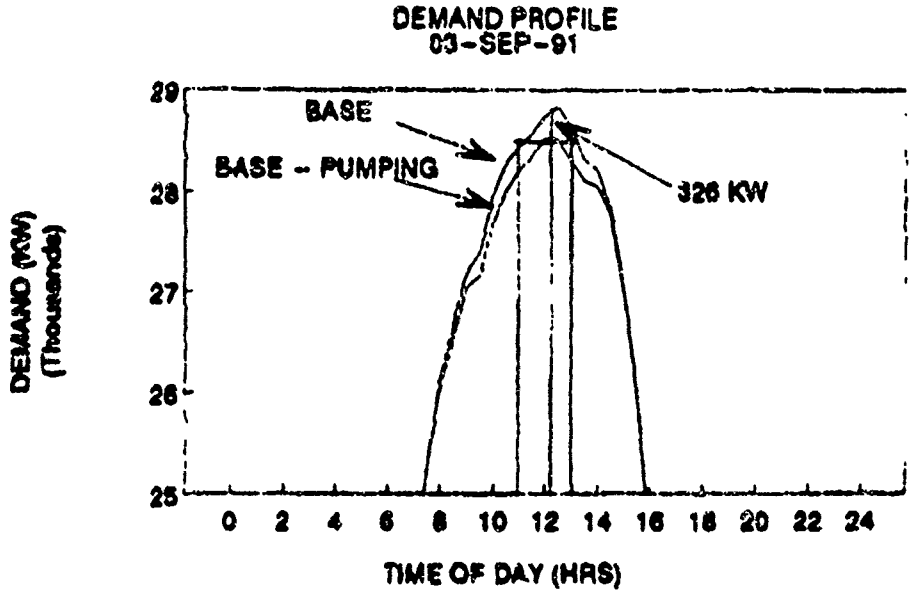
PLEASE RETURN THIS PORTION WITH YOUR PAYMENT TO

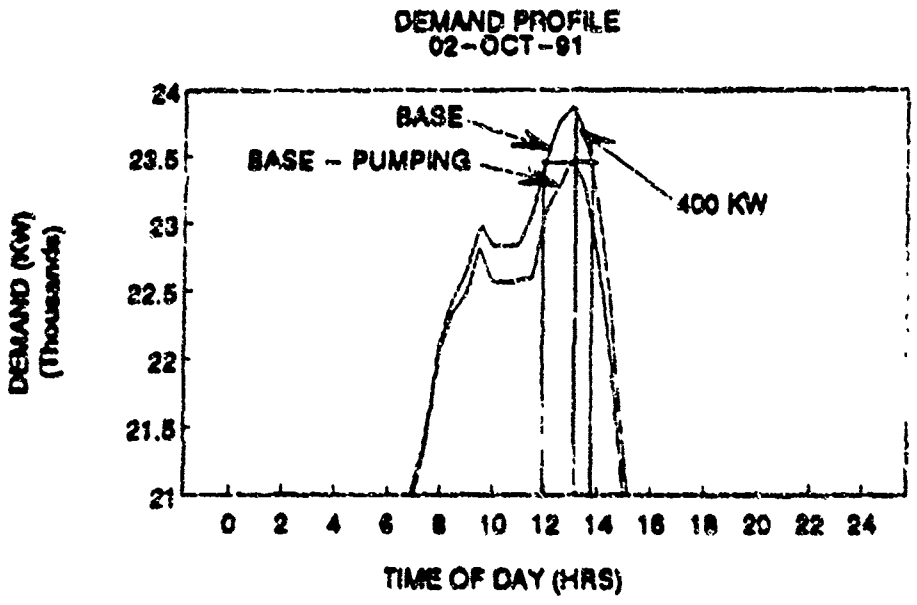
EL PASO ELECTRIC COMPANY
ATTN REVENUE PROCESSING
PO BOX 20982
EL PASO TEXAS 79960

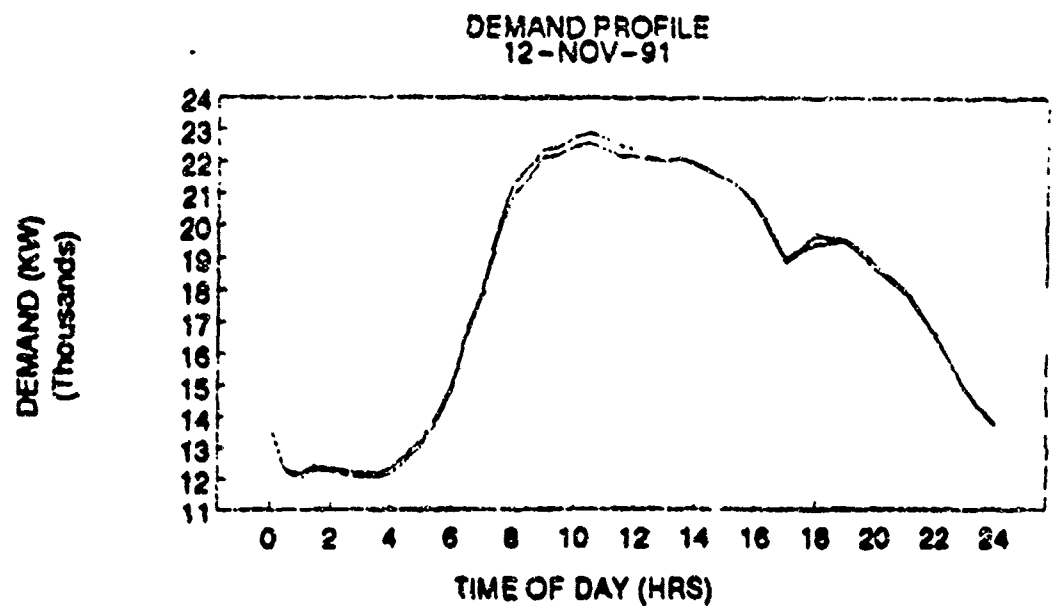
APPENDIX C - Peak Demand Profiles

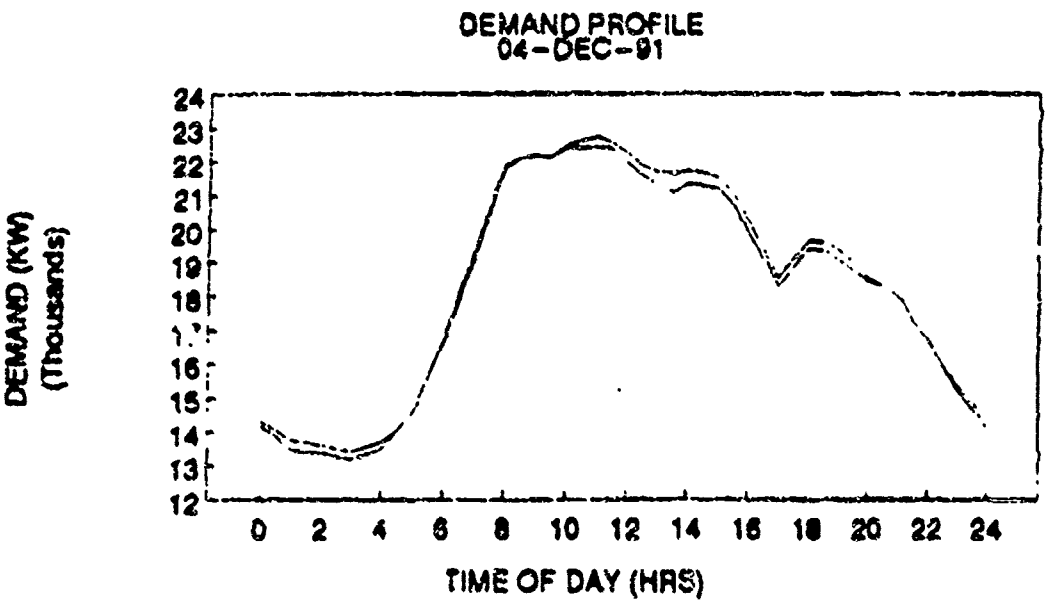

DEMAND PROFILE
03-SEP-91
DEMAND (KW)
(Thousands)
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

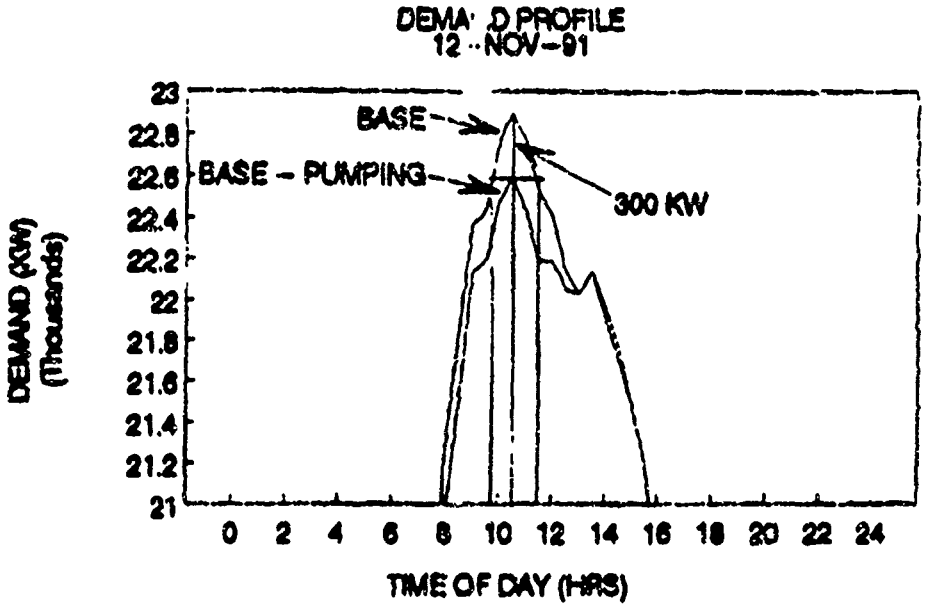

DEMAND PROFILE
02-OCT-91
DEMAND (KW)
(Thousands)
25
24
23
22
21
20
19
18
17
16
15
14
13
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

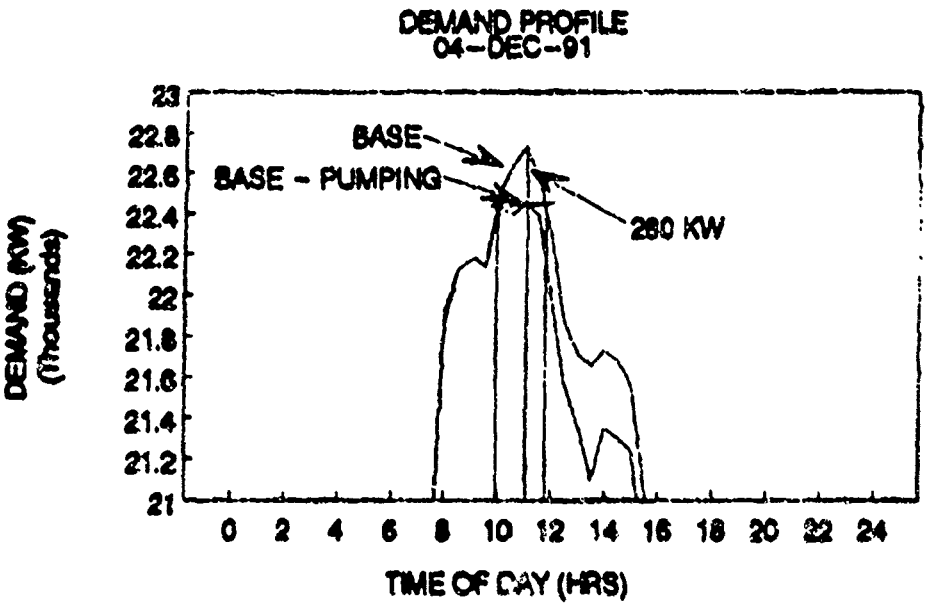

DEMAND PROFILE
03-SEP-91
DEMAND (KW)
(Thousands)
29
28
27
26
25
BASE
BASE -- PUMPING
326 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

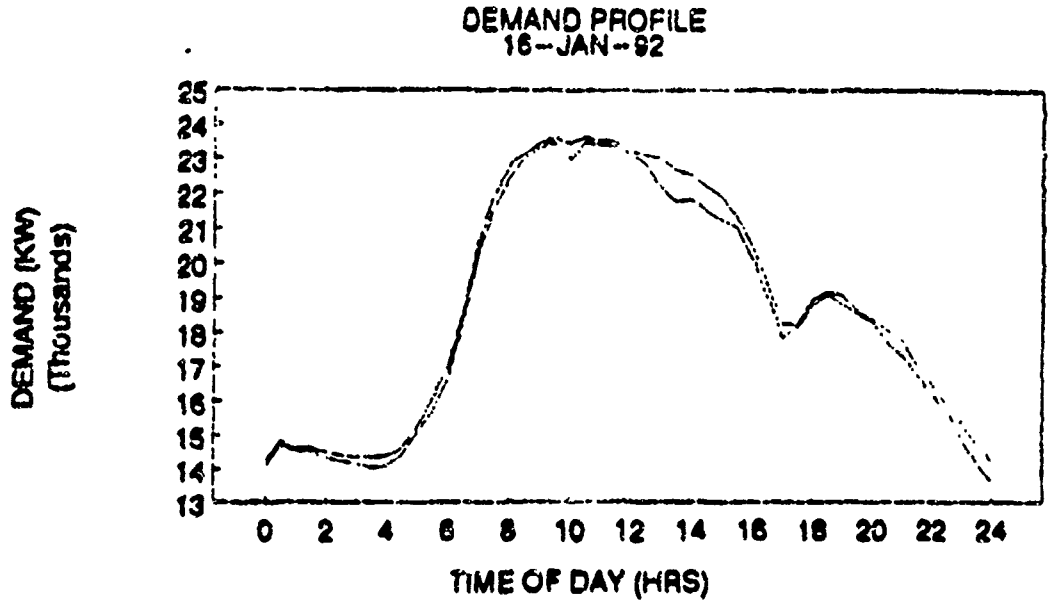

DEMAND PROFILE
02-OCT-91
DEMAND (KW)
(Thousands)
24
23.5
23
22.5
22
21.5
21
BASE
BASE -- PUMPING
400 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

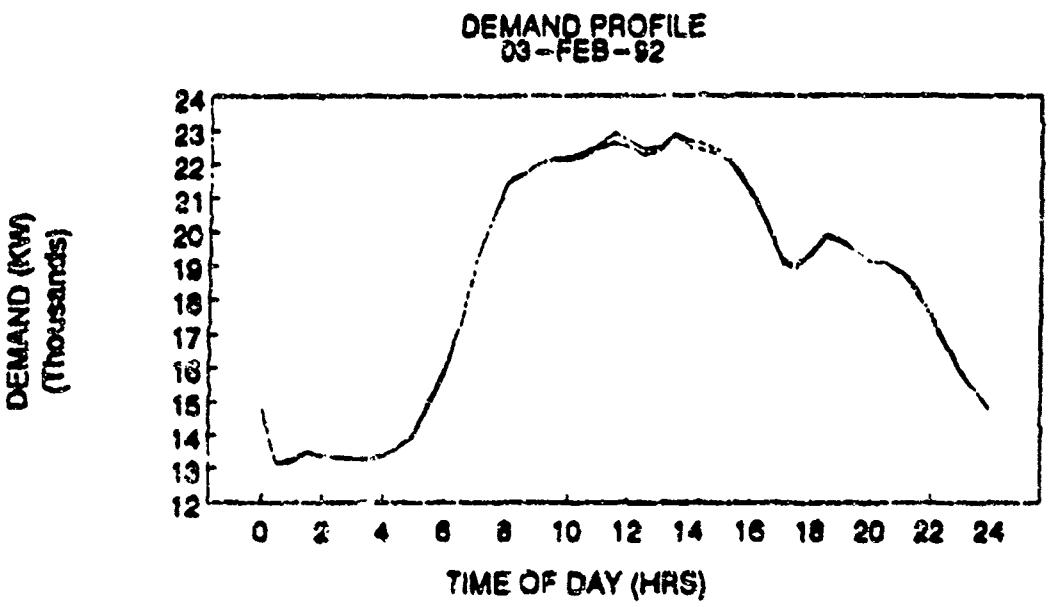

DEMAND PROFILE
12-NOV-91
DEMAND (KW)
(Thousands)
24
23
22
21
20
19
18
17
16
15
14
13
12
11
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

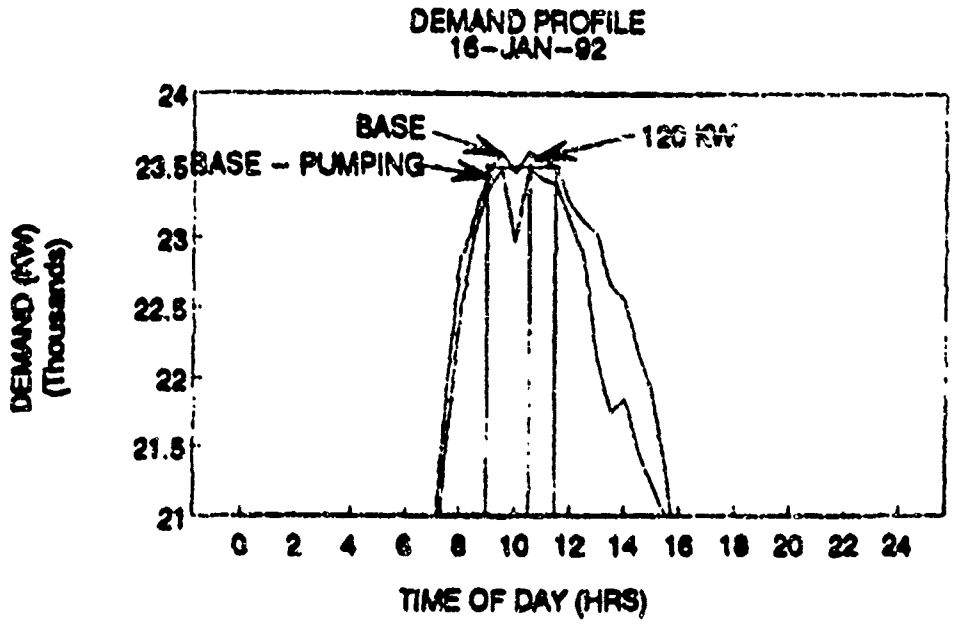

DEMAND PROFILE
04-DEC-91
DEMAND (KW)
(Thousands)
24
23
22
21
20
19
18
16
15
14
13
12
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

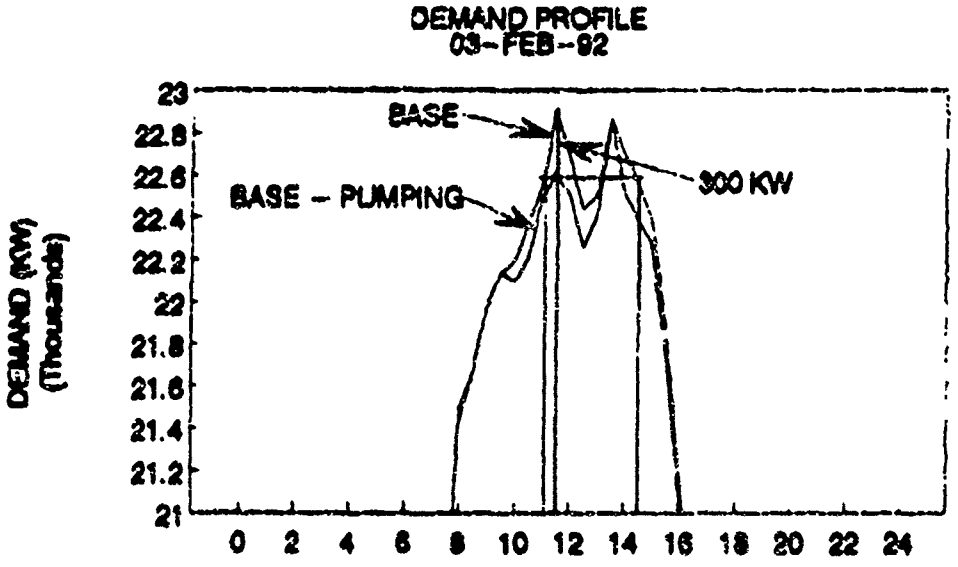

DEMAND PROFILE
12-NOV-91
DEMAND (KW)
(Thousands)
23
22.8
22.6
22.4
22.2
22
21.8
21.6
21.4
21.2
21
BASE
BASE - PUMPING
300 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

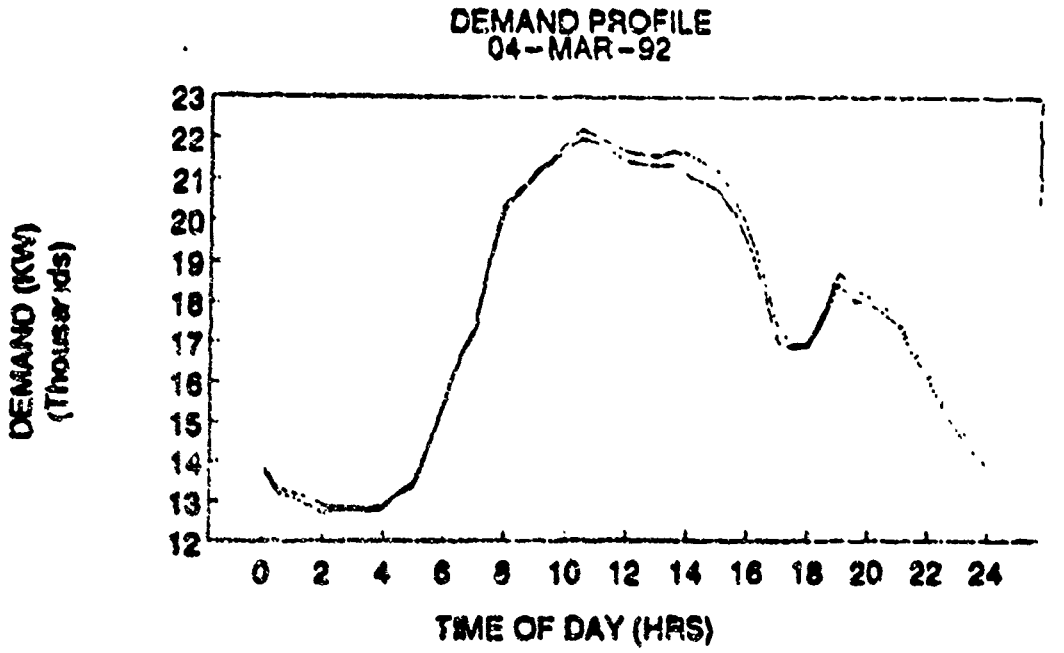

DEMAND PROFILE
04-DEC-91
DEMAND (KW)
(Thousands)
23
22.8
22.6
22.4
22.2
22
21.8
21.6
21.4
21.2
21
BASE
BASE - PUMPING
280 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

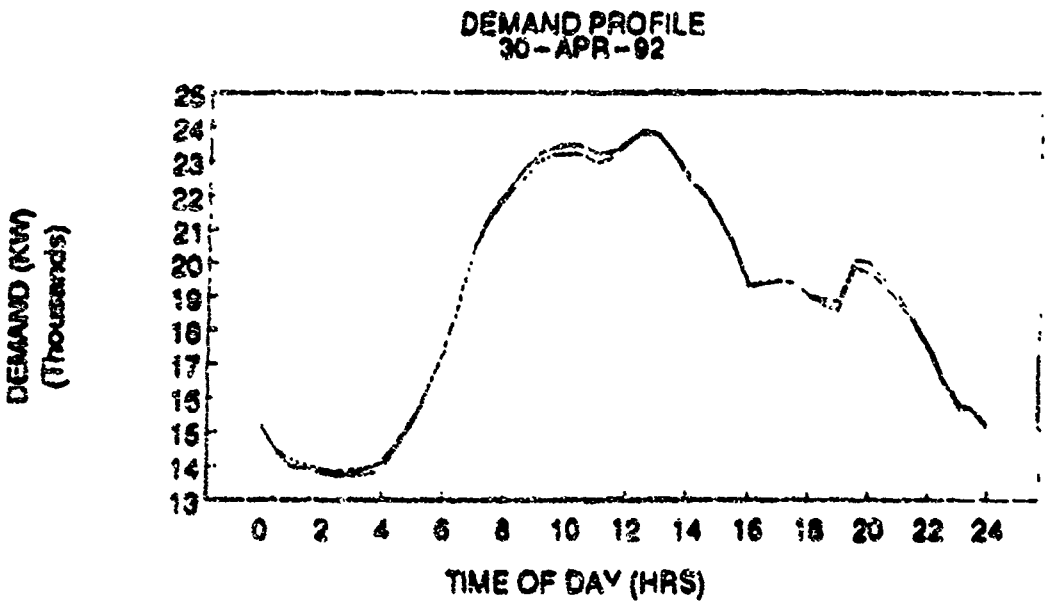

DEMAND PROFILE
16-JAN-92
DEMAND (KW)
(Thousands)
25
24
23
22
21
20
19
18
17
16
15
14
13
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

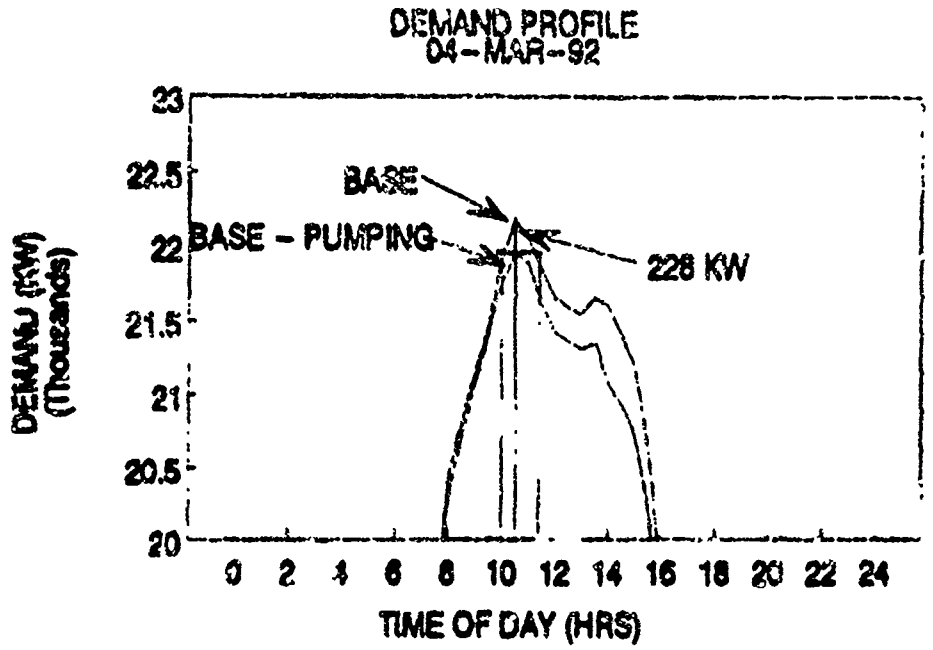

DEMAND PROFILE
03-FEB-92
DEMAND (KW)
(Thousands)
24
23
22
21
20
19
18
17
16
15
14
13
12
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

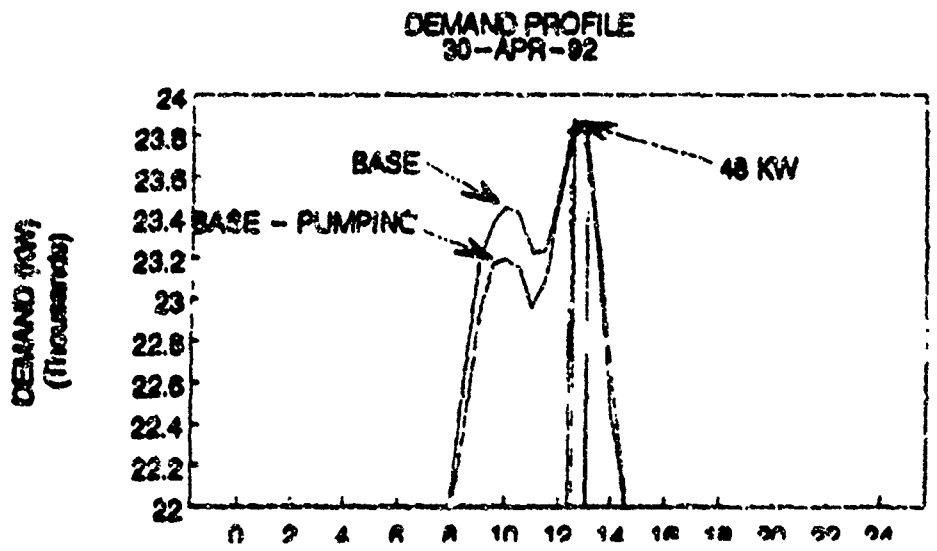

DEMAND PROFILE
16-JAN-92
BASE
BASE - PUMPING
120 KW
DEMAND (KW)
(Thousands)
24
23.5
23
22.5
22
21.5
21
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

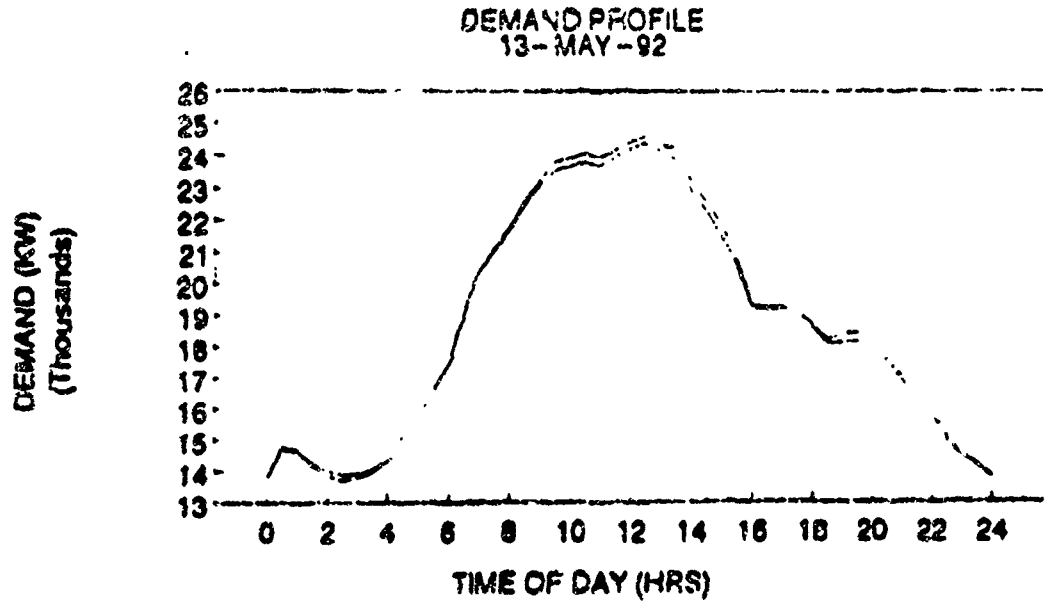

DEMAND PROFILE
03-FEB-92
BASE
BASE - PUMPING
300 KW
DEMAND (KW)
(Thousands)
23
22.8
22.6
22.4
22.2
22
21.8
21.6
21.4
21.2
21
0 2 4 6 8 10 12 14 16 18 20 22 24

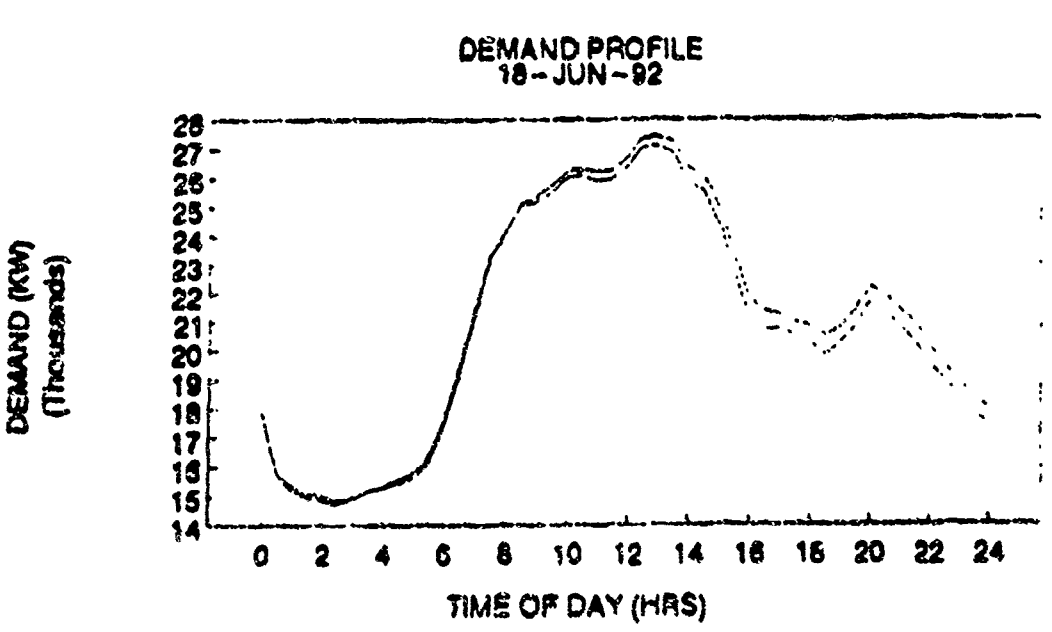

DEMAND PROFILE
04-MAR-92
DEMAND (KW)
(Thousands)
23
22
21
20
19
18
17
16
15
14
13
12
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

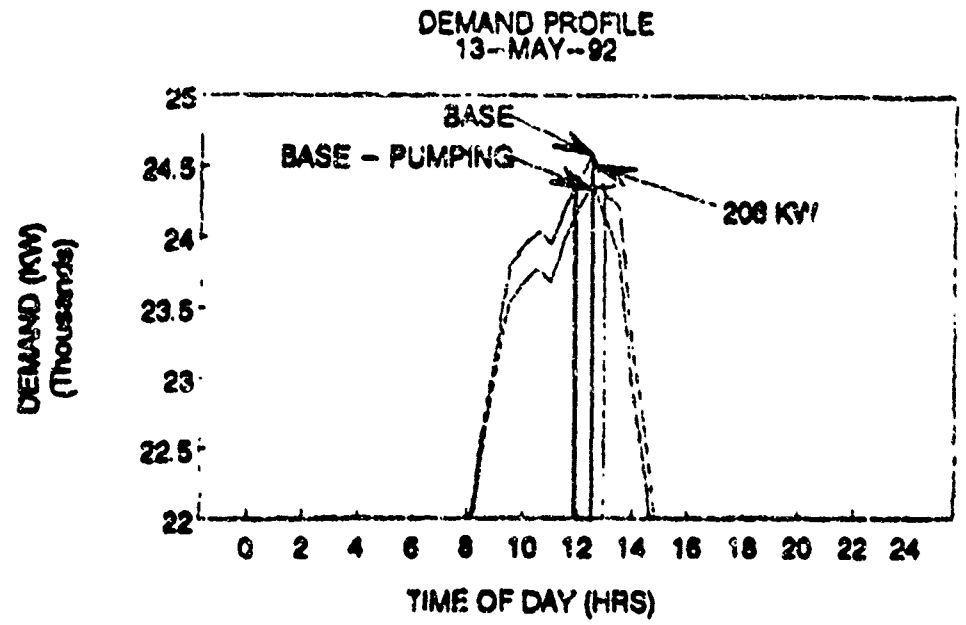

DEMAND PROFILE
30-APR-92
DEMAND (KW)
(Thousands)
25
24
23
22
21
20
19
18
17
16
15
14
13
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

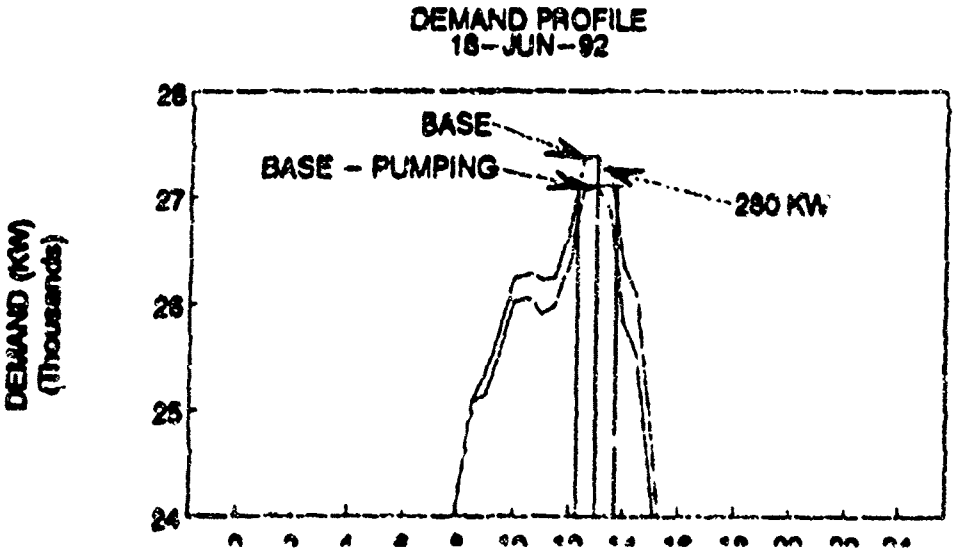

DEMAND PROFILE
04-MAR-92
DEMAND (KW)
(Thousands)
23
22.5
22
21.5
21
20.5
20
BASE
BASE - PUMPING
228 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

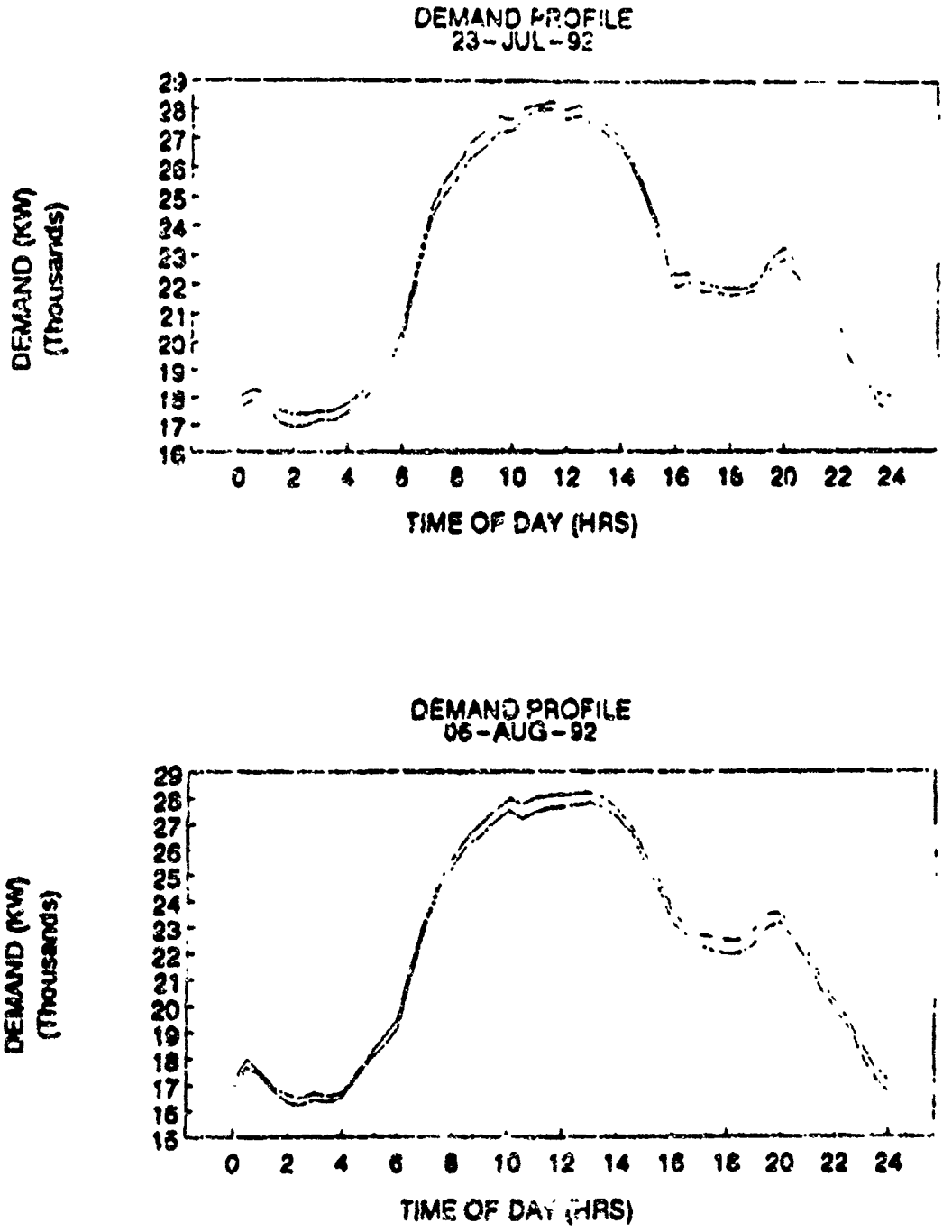

DEMAND PROFILE
30-APR-92
DEMAND (KW)
(Thousands)
24
23.8
23.6
23.4
23.2
23
22.8
22.6
22.4
22.2
22
BASE
BASE - PUMPING
48 KW

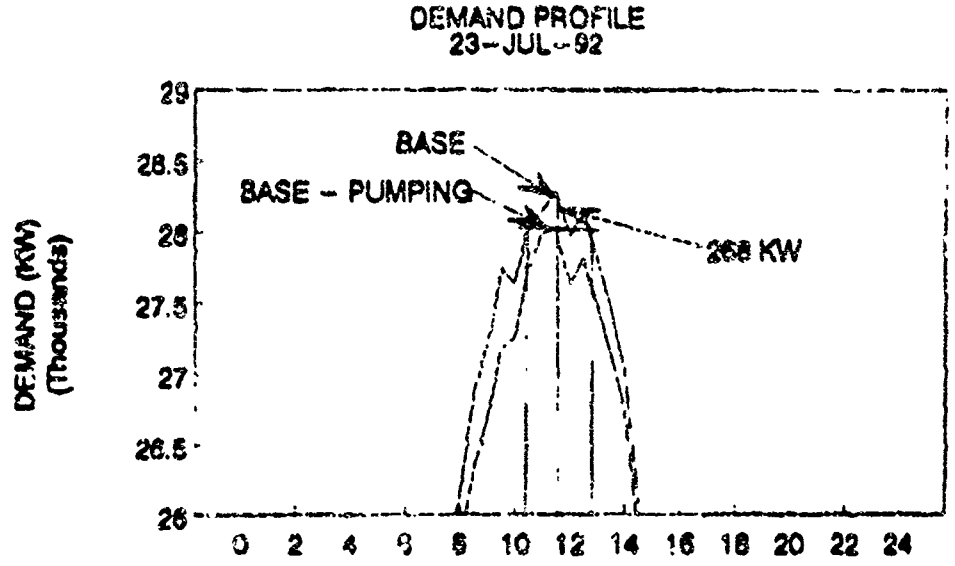

DEMAND PROFILE
13-MAY-92
DEMAND (KW)
(Thousands)
26
25
24
23
22
21
20
19
18
17
16
15
14
13
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

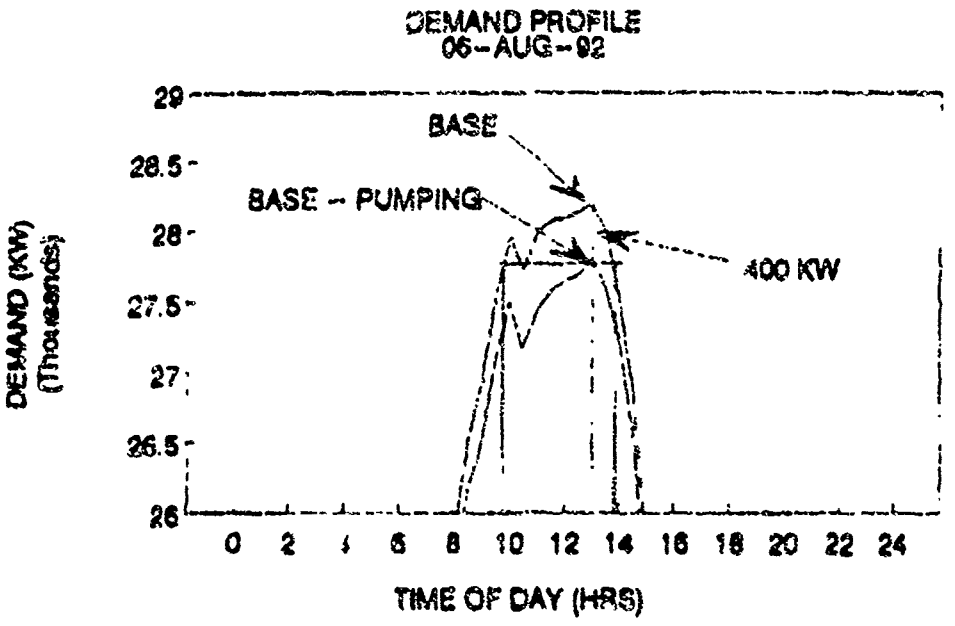

DEMAND PROFILE
18-JUN-92
DEMAND (KW)
(Thousands)
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)


DEMAND PROFILE
13-MAY-92
BASE
BASE - PUMPING
208 KW
DEMAND (KW)
(Thousands)
25
24.5
24
23.5
23
22.5
22
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)


DEMAND PROFILE
18-JUN-92
BASE
BASE - PUMPING
280 KW
DEMAND (KW)
(Thousands)
28
27
26
25
24


DEMAND PROFILE
23-JUL-92
DEMAND (KW)
(Thousands)
29
28
27
26
25
24
23
22
21
20
19
18
17
16
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)
DEMAND PROFILE
06-AUG-92
DEMAND (KW)
(Thousands)
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)


DEMAND PROFILE
23-JUL-92
DEMAND (KW)
(Thousands)
29
28.5
28
27.5
27
26.5
26
BASE
BASE - PUMPING
268 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)


DEMAND PROFILE
06-AUG-92
DEMAND (KW)
(Thousands)
29
28.5
28
27.5
27
26.5
26
BASE
BASE - PUMPING
400 KW
0 2 4 6 8 10 12 14 16 18 20 22 24
TIME OF DAY (HRS)

APPENDIX D

Example Energy Calculations

EXAMPLE ENERGY CALCULATIONS

Daily Pump Report Summary

1. Using the Williams Electric Control System data, and the peak demand pump KW listed in Row B, the daily pump report summaries were created for each of the peak days during the 12-month period.

2. The summation of the total pumping KW for each peak day at 30-minute intervals was calculated and is listed in Column A.

3. Next, the daily run-times were calculated (Row C) and multiplied by the pump KW (Row B) to determine the daily KWH consumption (Row D).

Alternative Energy Use Summary

1. The peak pumping KW which occurred between 10:00 am and 3:00 pm was determined for Column A from the Daily Pump Report Summary for each of the peak days during the 12-month period. These values are listed in Column G.

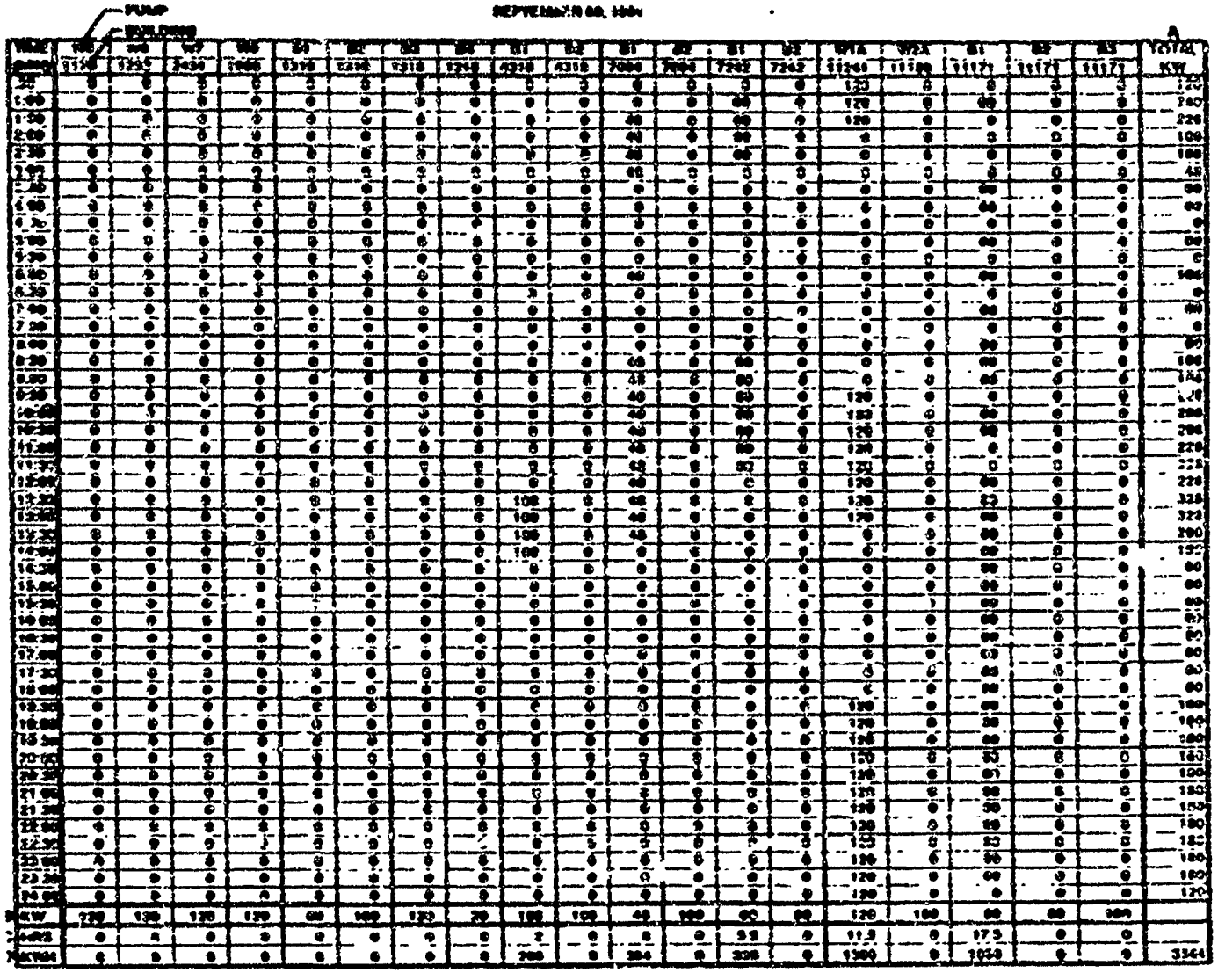
2. Next, the approximately monthly KWH usage was determined by multiplying the total daily usage (Row D) by 30 days per month. These values are listed in Columns H and J.

3. The peak demand for Alternative 2 is zero (Column I) due to the pumps being scheduled off between 10:00 am to 3:00 pm.

4. The annual utility requirements for each alternative (Row P) were calculated by summing the 12 monthly values.

EXAMPLE

DAILY PUMP REPORT SUMMARY



EXAMPLE

ALTERNATIVE ENERGY USE SUMMARY

	G	H	I	J
MONTH	ALTERNATIVE # 1		ALTERNATIVE # 2	
	PEAK KW	USAGE KWH	PEAK KW	USAGE KWH
SEP 91	328	100,320	0	100,320
OCT 91	400	169,942	0	169,942
NOV 91	300	97,600	0	97,600
DEC 91	280	137,020	0	137,020
JAN 92	120	164,610	0	164,610
FEB 92	300	50,460	0	50,460
MAR 92	228	106,764	0	106,764
APR 92	48	90,900	0	90,900
MAY 92	208	100,006	0	100,006
JUN 92	260	248,700	0	248,700
JUL 92	266	281,666	0	281,666
AUG 92	400	268,770	0	268,770
TOTALS	3,160	1,816,958	0	1,816,958

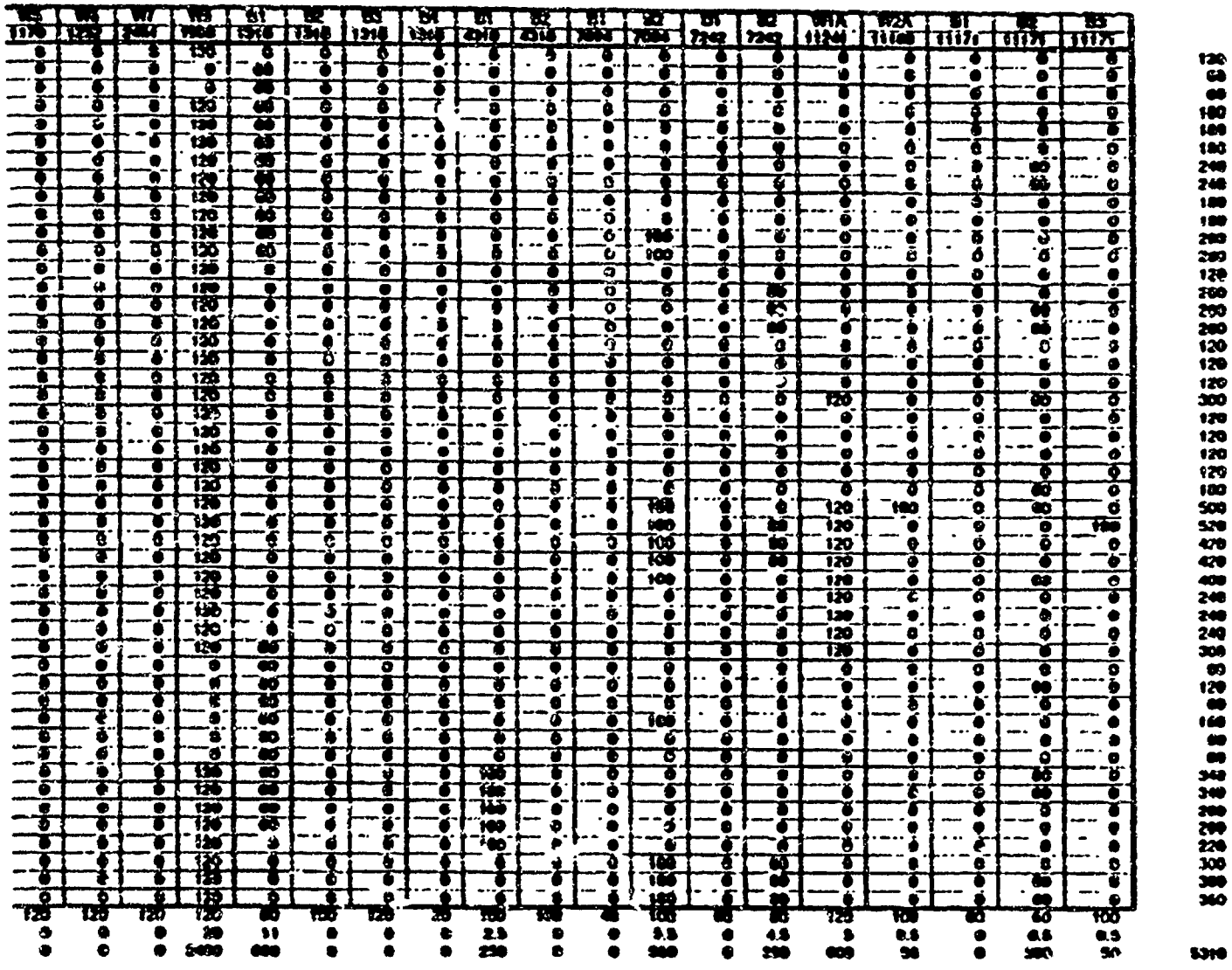
APPENDIX E - Pump Run Time Data

ALTERNATIVE ENERGY USE SUMMARY

MONTH	ALTERNATIVE # 1		ALTERNATIVE # 2	
	PEAK KW	USAGE KWH	PEAK KW	USA KWH
SEP 91	328	100,320	0	100,320
OCT 91	400	169,942	0	169,942
NOV 91	300	97,800	0	97,800
DEC 91	280	137,020	0	137,020
JAN 92	120	164,610	0	164,610
FEB 92	300	50,460	0	50,460
MAR 92	228	106,764	0	106,764
APR 92	48	90,900	0	90,900
MAY 92	208	100,006	0	100,006
JUN 92	280	248,700	0	248,700
JUL 92	268	281,666	0	281,666
AUG 92	400	268,770	0	268,770
TOTALS	3,160	1,816,958	0	1,816,958

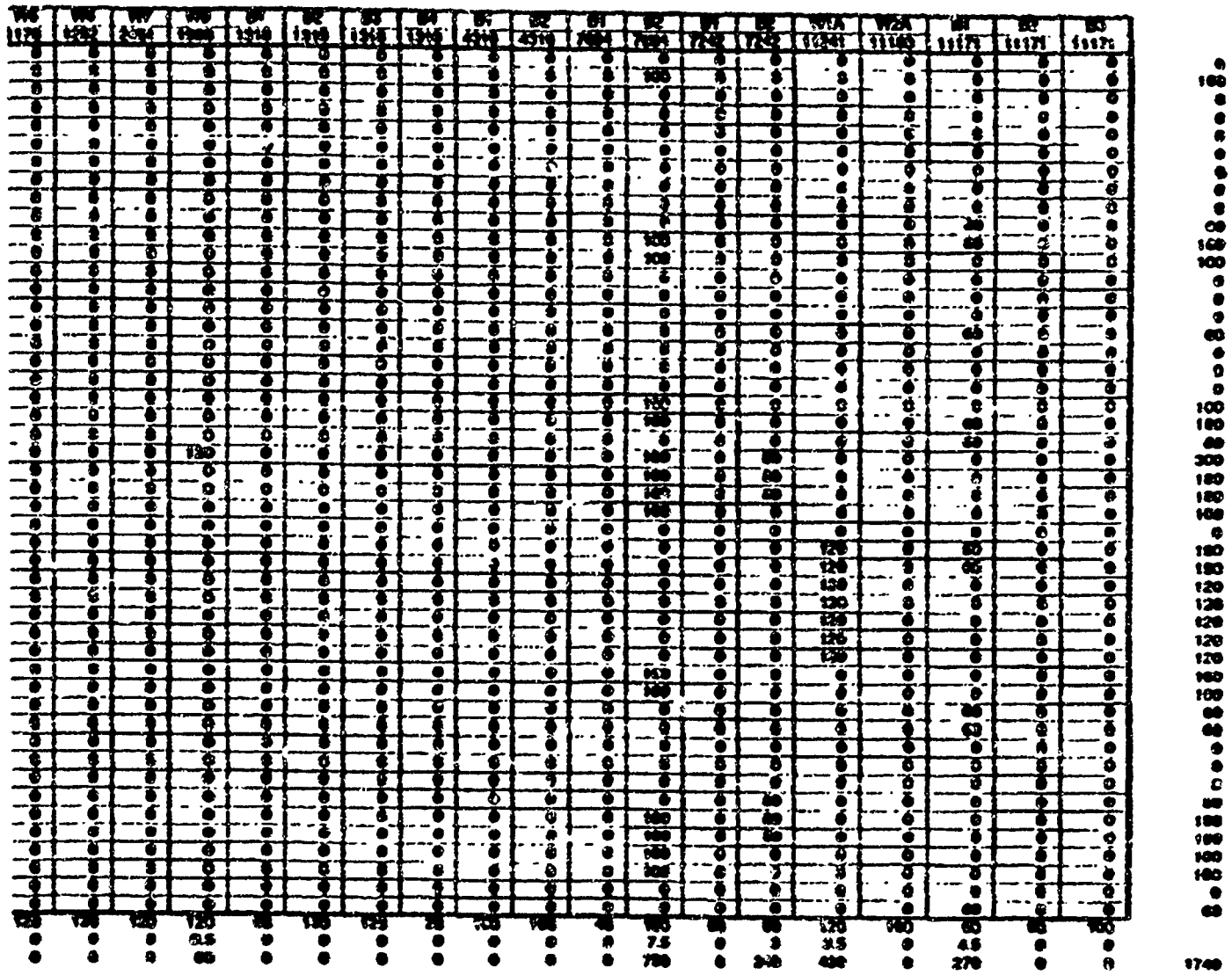
DAILY PUMP REPORT SUMMARY

JANUARY 16 1992



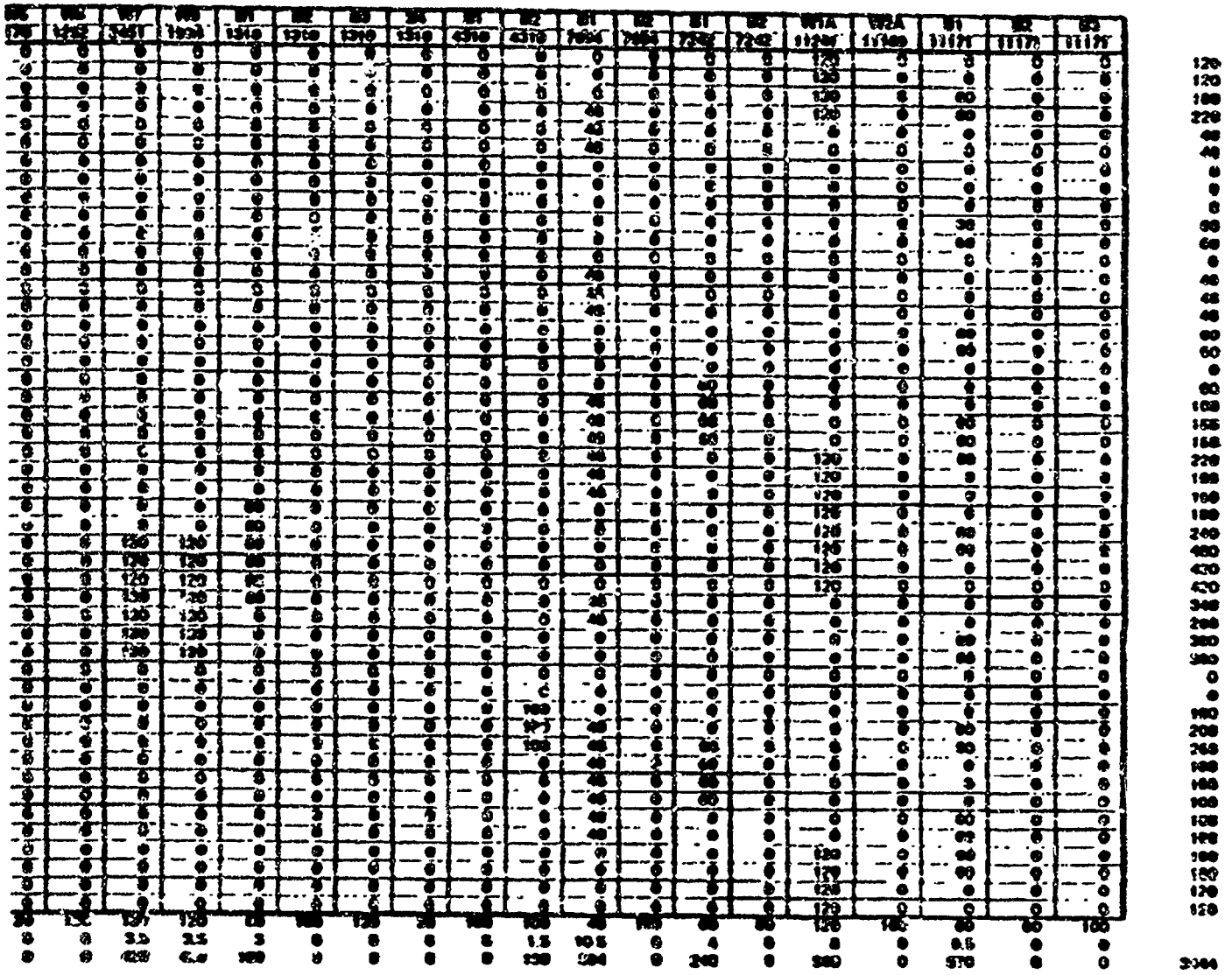
DAILY PUMP REPORT SUMMARY

FEBRUARY 09 1992



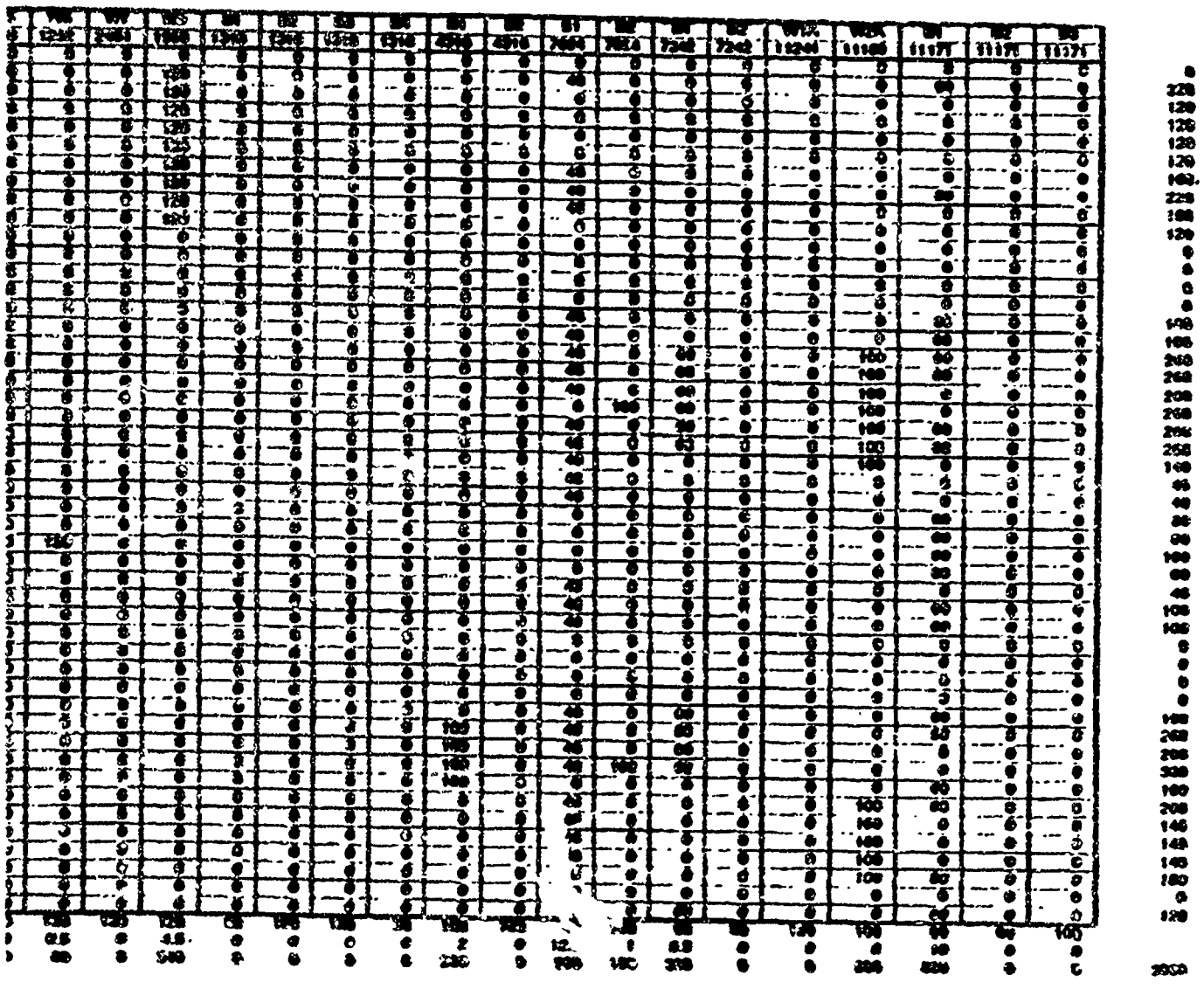
DAILY PUMP REPORT SUMMARY

MARCH 04 1952



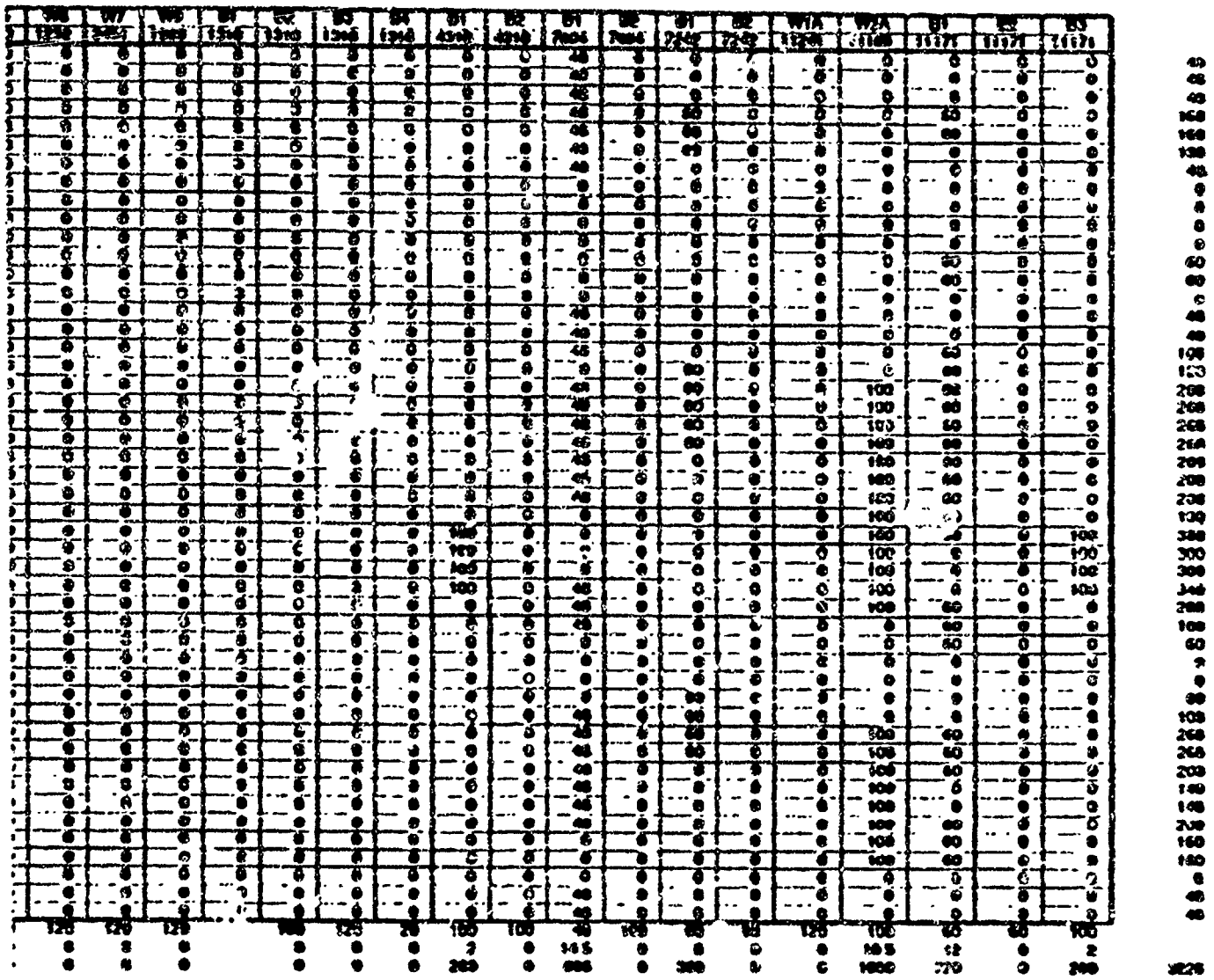
DAILY PUMP REPORT SUMMARY

APRIL 30 1992



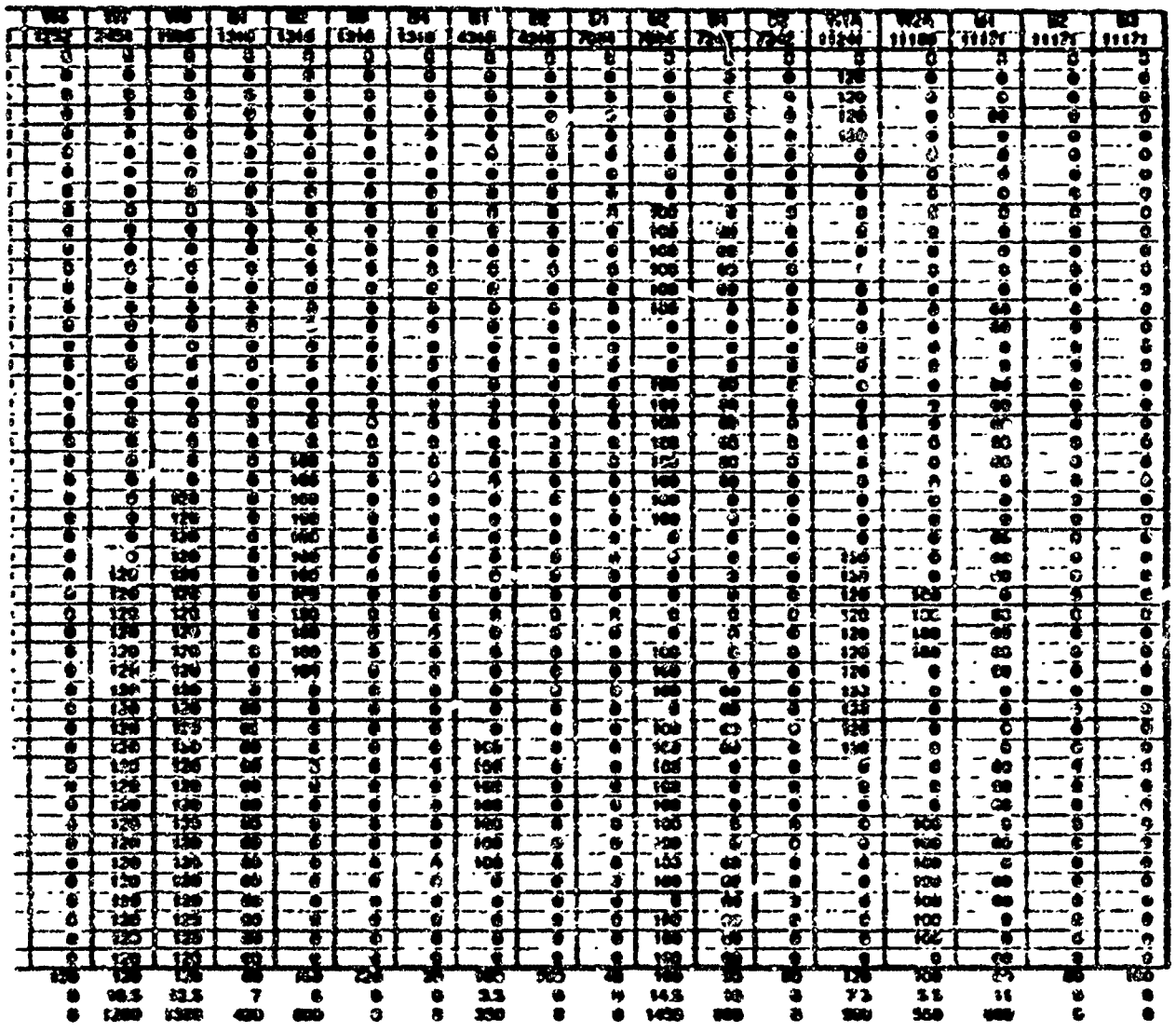
DAILY PUMP REPORT SUMMARY

MAY 13 [illegible]



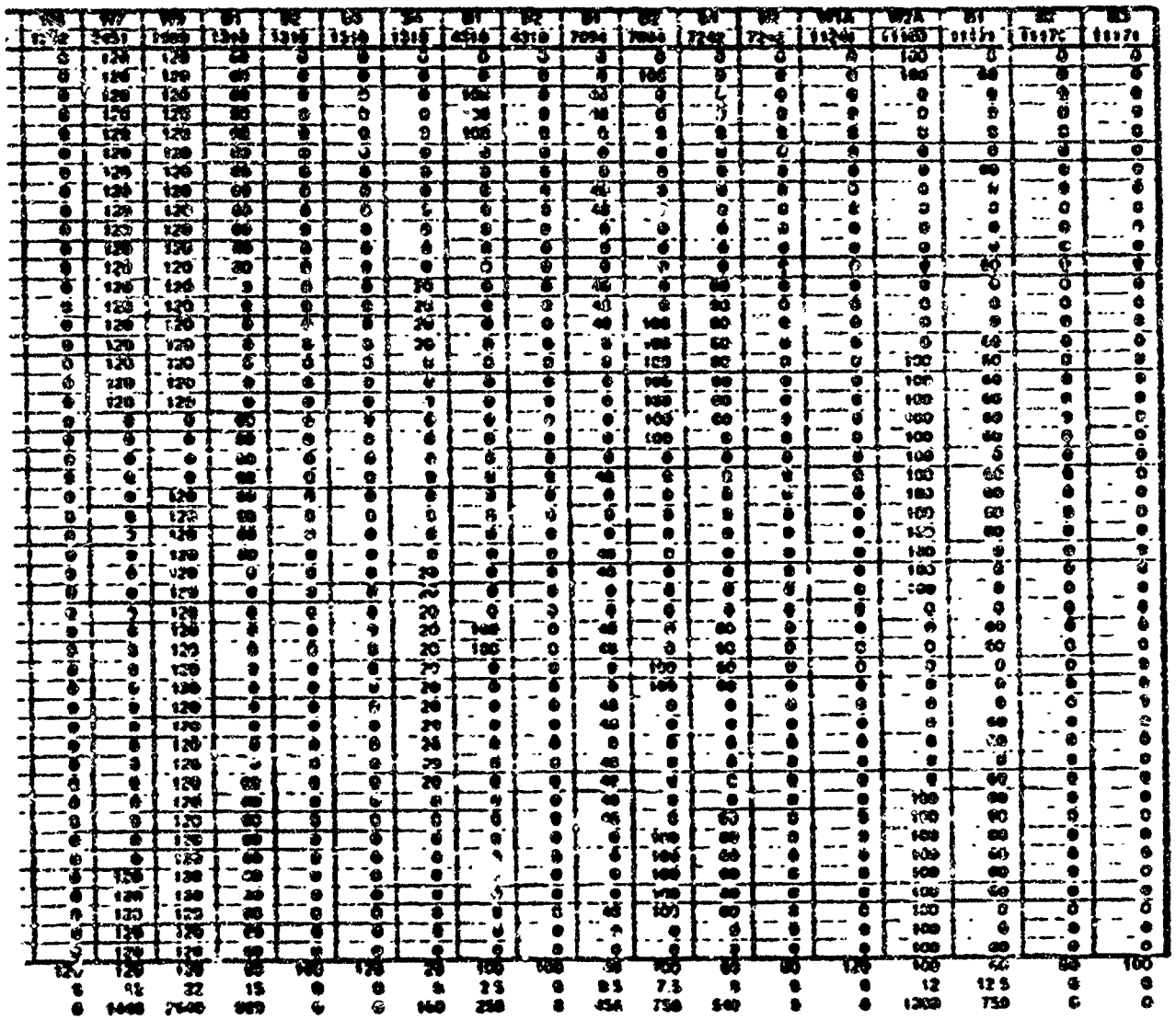
DAILY PUMP REPORT SUMMARY

JUNE 19 1962



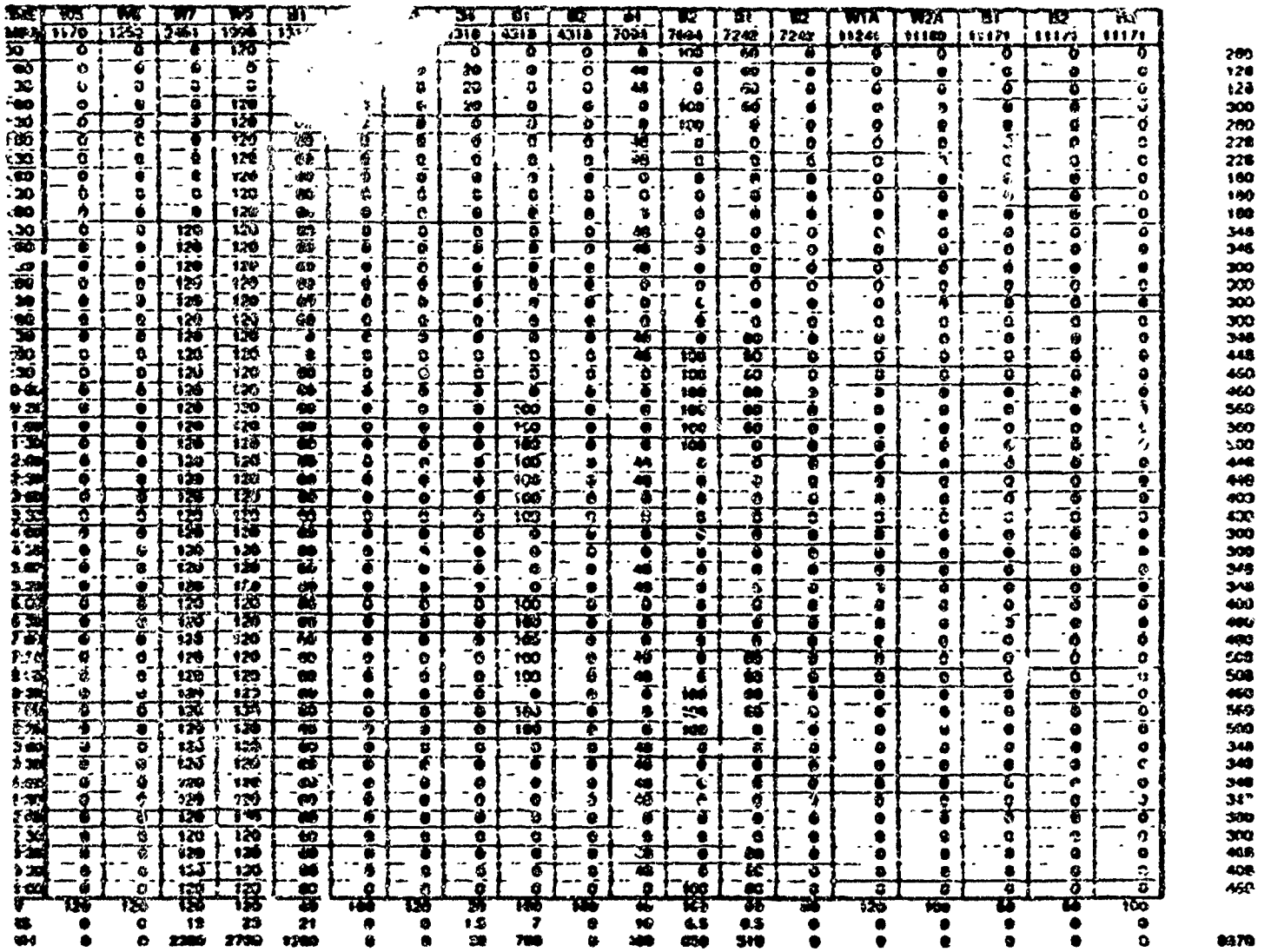
DAILY PUMP REPORT SUMMARY

JULY 23 1982



DAILY PUMP REPORT SUMMARY

AUGUST 06 1992



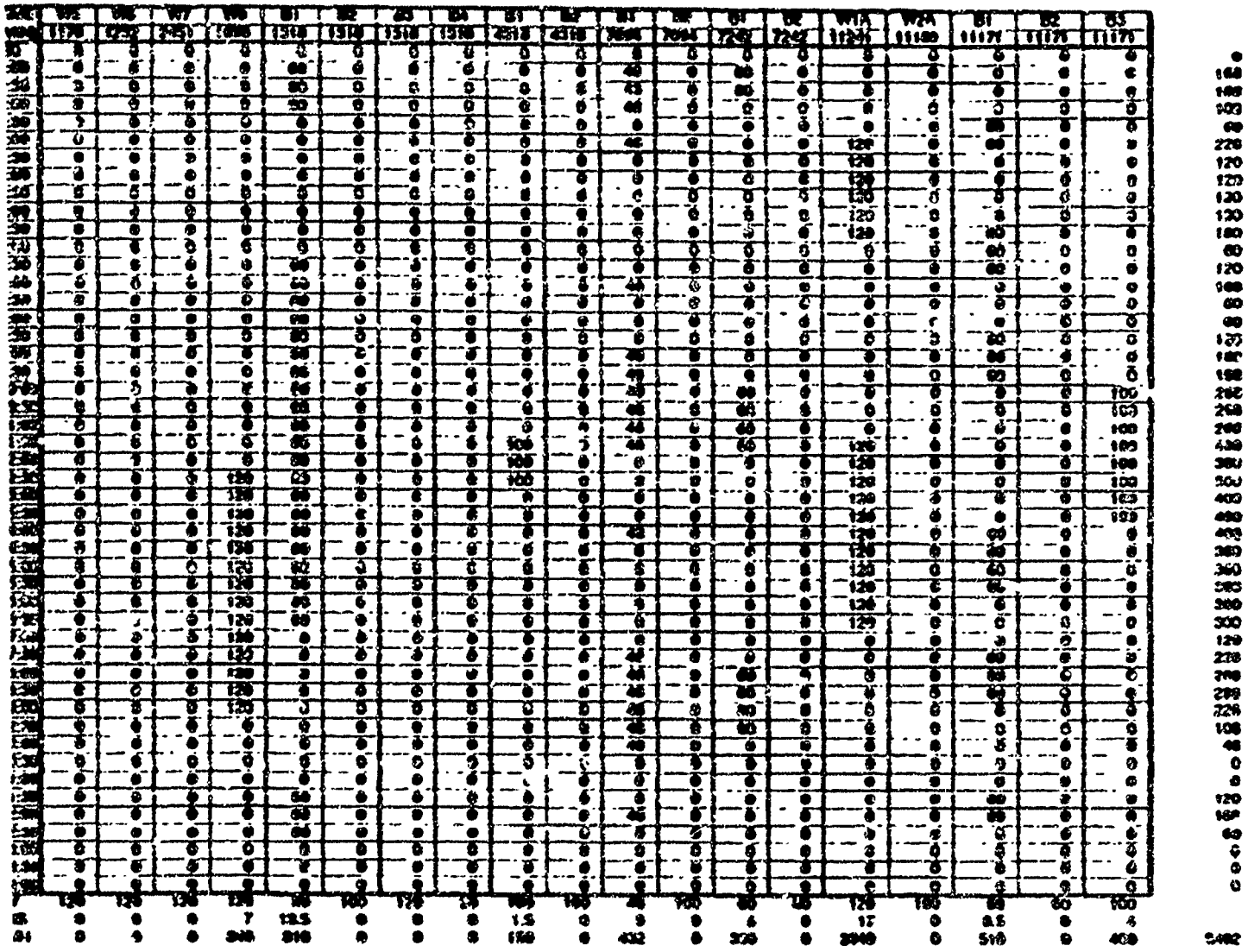
DAILY PUMP REPORT SUMMARY

SEPTEMBER 8, 1993

TIME	B3	B6	B7	B9	B4	B2	B3	B4	B1	B2	B1	B2	B1	B2	W/A	W/A	B1	B2	B3	TOTAL
	1170	1270	2031	1990	1210	1210	1210	1210	4310	4310	7000	7000	7240	7240	11241	11160	11171	11171	11171	KW
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0		120
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	240
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	240
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120		0	0	0	120
KW	120	120	120	120	67	140	120	20	180	180	60	180	80	80	120	200	80	0	180	
HRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.5	0	17.5	0	0	
KWH	0	0	0	0	0	0	0	0	240	0	360	0	240	0	1380	0	1680	0	0	4144

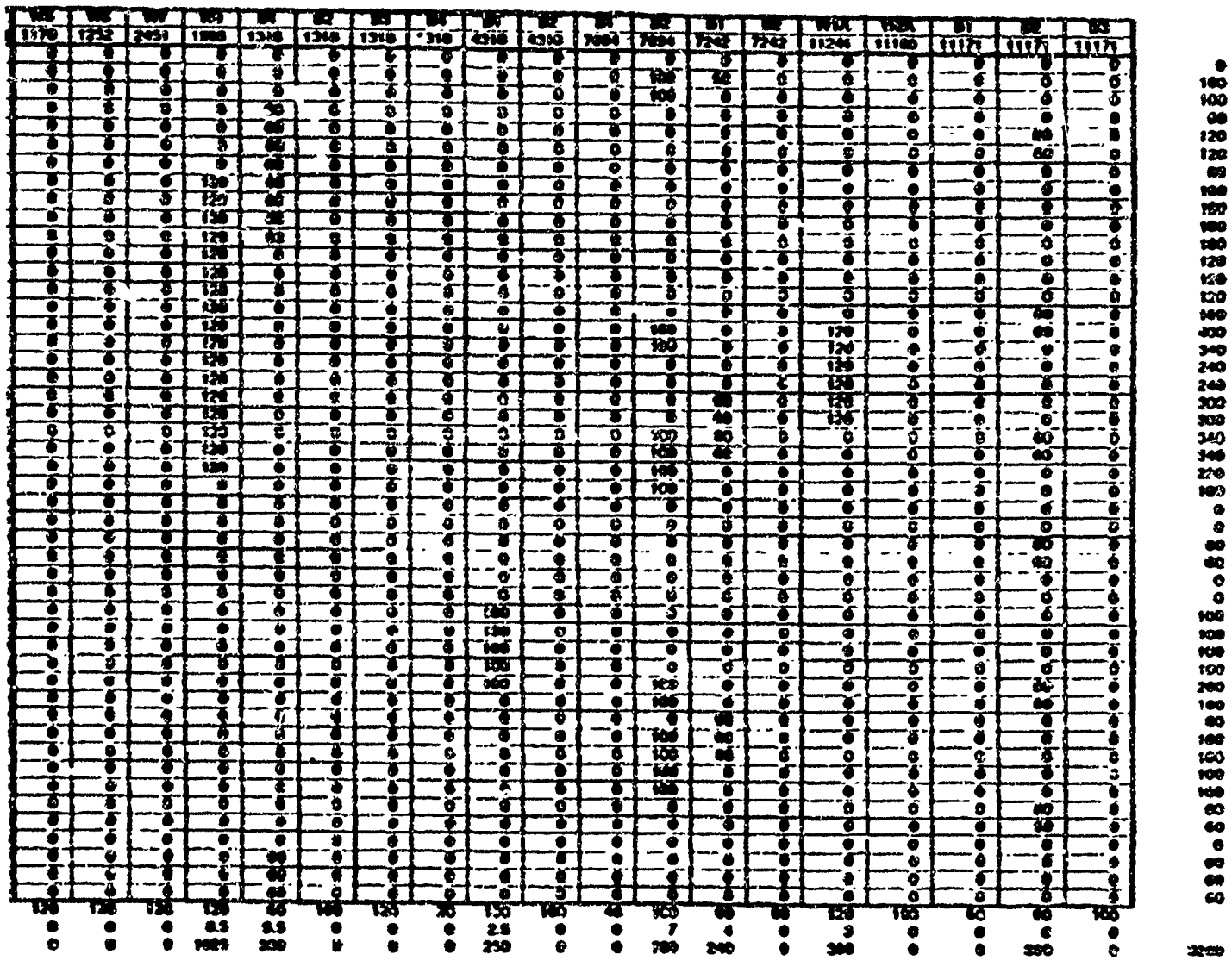
DAILY PUMP REPORT SUMMARY

OCTOBER 92 1991



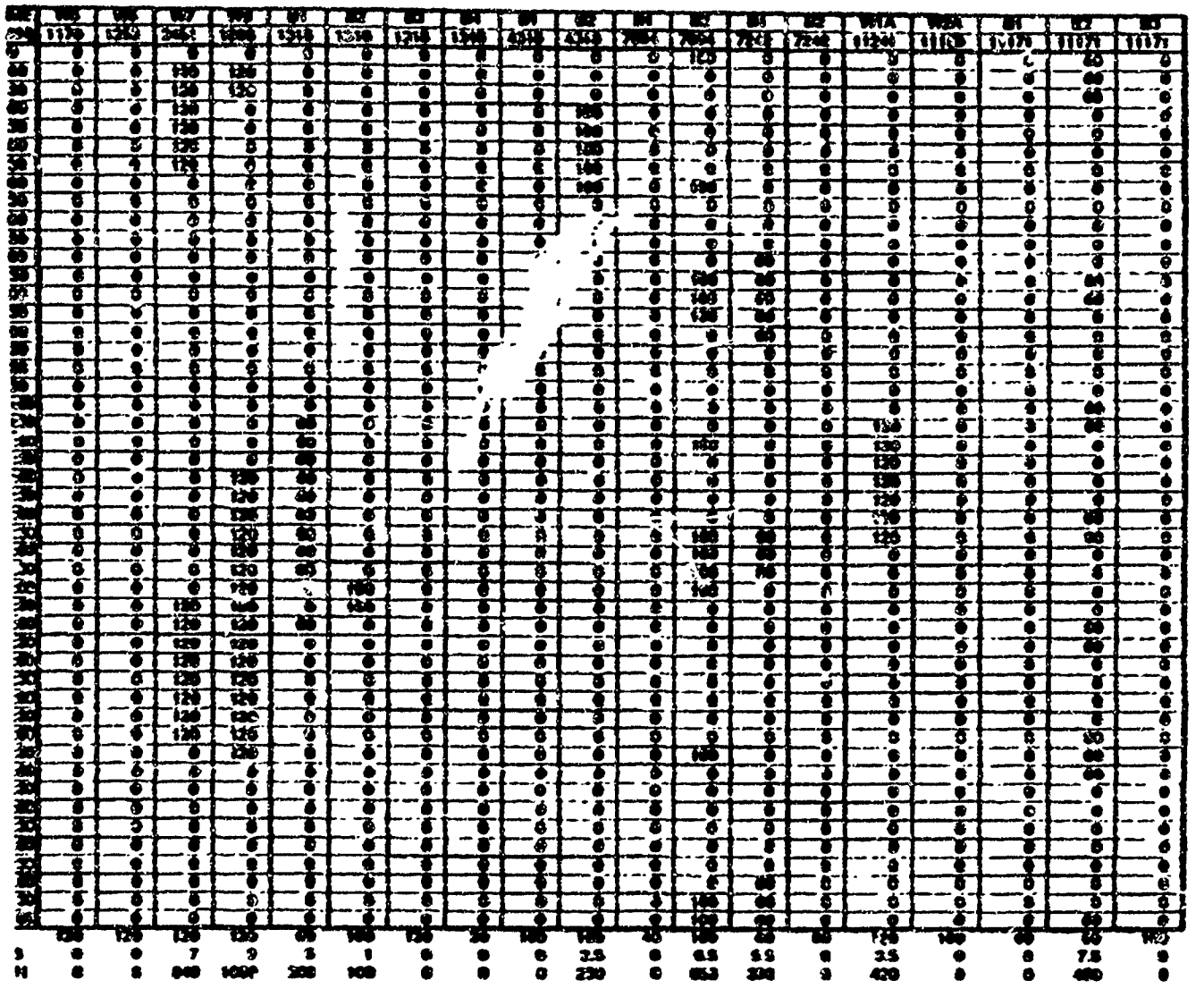
DAILY PUMP REPORT SUMMARY

NOVEMBER 12 1991



DAILY PUMP REPORT SUMMARY

DECEMBER 04 1997



APPENDIX F

Water Distribution and Well Pumping Records

FORT BLISS

WELL PUMPING 1993

For Fort Bliss and WBAMC Systems only

MONTH	PIKE	DESERT	TOTAL
MARCH 93	14,274,018	68,418,400	82,692,418
APRIL 93	37,566,248	73,599,048	111,165,296
MAY 93	47,479,192	95,669,128	143,148,320
JUNE 93	45,590,528	107,206,632	152,797,260
JULY 93	39,446,984	112,948,112	152,395,096
AUGUST 93	19,120,382	105,582,576	124,702,958
SEPTEMBER 93	4,957,536	96,970,784	101,928,320
OCTOBER 93	7,991,019	75,832,008	83,493,027
NOVEMBER 93	1,050,648	61,551,956	62,602,604
DECEMBER 93	6,220,852	41,909,896	48,130,748
JANUARY 94	34,183,644	15,508,847	49,693,491
FEBRUARY 94	59,097,344	947,201	60,044,545
TOTAL (MG)	316,648,625	856,145,288	1,172,793,983
AVERAGE (MGD)	0.87	2.35	3.21

FORT BLISS WELL PUMPING

JUNE 1993

For Fort Bliss and WBAMC Systems only

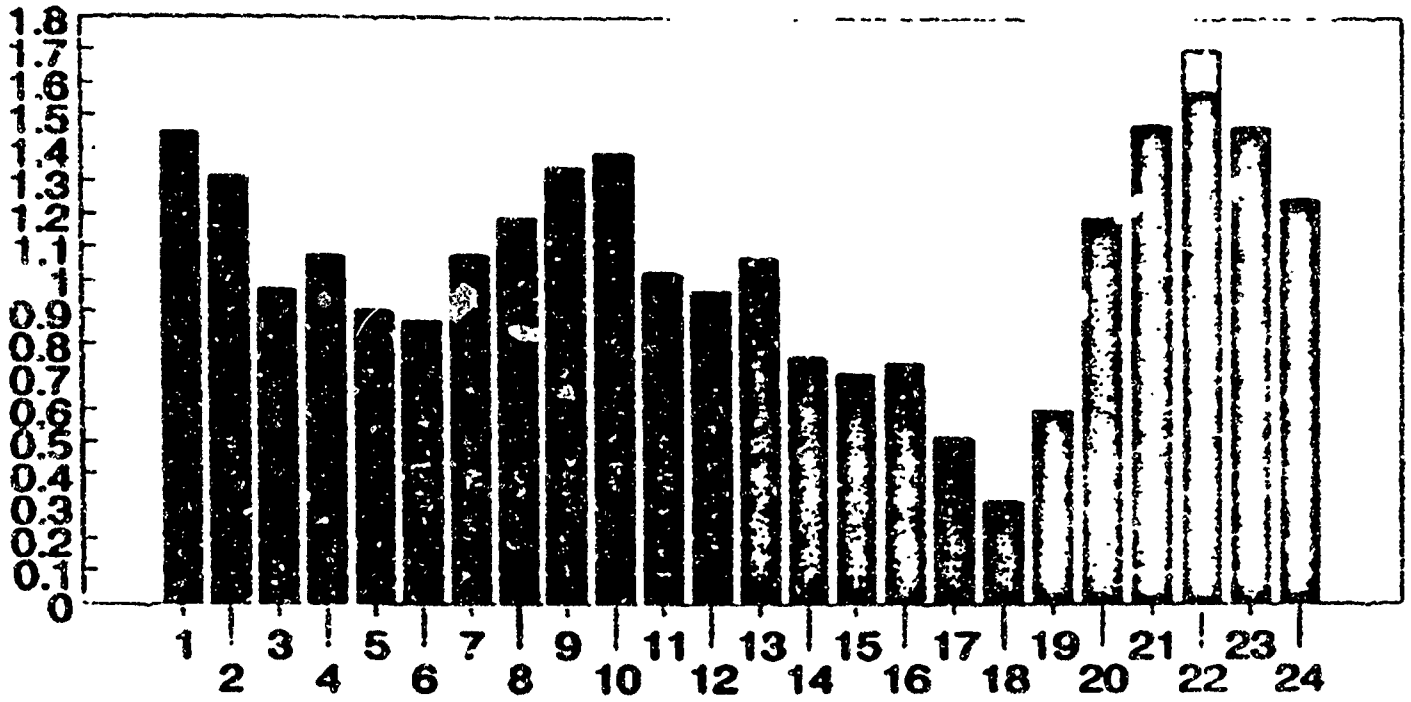
DAY	PIKE	DESERT	TOTAL
1	2,160,616	3,705,302	5,865,918
2	1,819,218	3,702,650	5,521,868
3	1,728,090	3,840,404	5,568,494
4	1,458,360	4,059,582	5,517,942
5	1,248,746	3,103,959	4,352,705
6	677,282	2,931,141	3,608,423
7	1,424,878	4,7[illegible],847	6,219,725
8	1,995,373	3,931,272	5,927 145
9	1,874,316	3,441,080	5,315,396
10	1,486,271	3,817,143	5,303,414
11	1,405,768	3,283,215	4,688,983
12	892,598	3,422,702	4,315,300
13	1,169,643	3,028,084	4,197 *27
14	1,690,334	4,589,719	6,27[illegible],053
15	971,975	3,167,608	4,139,583
16	2,539,471	4,408,534	6,948,005
17	1,712,158	2,247,379	3,959,537
18	2,138,526	2,789,799	4,908,325
19	2,208,702	1,860,699	4,069,401
20	2,680,909	2,011,851	4,692,760
21	1,665,396	3,016,485	4,681,883
22	2,036,504	2,268,213	4,304,717
23	2,187,470	4,009,010	6,196,480
24	2,147,444	2,640,577	4,788,021
25	2,578,128	3,769,391	6,347,517
26	421,428	3,488,350	3,909,778
27	0	4,079,102	4,079,102
28	596,524	4,904,919	5,501,443
29	684,095	5,516,442	6,200,537
30	0	5,377,156	5,377,156
MG	46,990,623	107,206,615	152,797,238
MGD	1.52	3.46	4.93

FORT BLISS PEAK DAY PUMPING RECORDS

for JULY 23, 1992

Hour	PIKE	DESERT	HAWK	LOGAN	WBACM-L	WBACM-U	TOTAL	Hourly to Peak day Ratio
1	112,063	250,915	0	112,688	67,186	0	542,852	1.45
2	111,415	249,540	0	123,956	7,402	0	492,313	1.32
3	111,020	248,550	0	2,817	0	0	362,387	0.97
4	109,772	245,606	0	0	46,084	0	401,464	1.07
5	104,358	228,163	0	0	6,876	0	339,397	0.91
6	55,617	235,373	0	0	19,612	15,994	326,596	0.87
7	0	246,523	0	0	68,783	86,357	401,663	1.07
8	0	252,138	0	0	105,590	86,484	444,212	1.19
9	0	253,743	0	14,086	148,232	86,4[illegible]	502,555	1.34
10	92,626	241,913	0	0	134,057	49,783	518,384	1.39
11	108,501	239,780	0	0	33,746	0	382,027	1.02
12	105,035	237,205	17,491	0	0	0	359,731	0.96
13	106,548	243,813	23,399	0	25,954	0	399,714	1.07
14	3,529	231,968	22,224	11,269	16,199	0	285,189	0.76
15	0	93,845	14,642	94,166	20,881	41,794	265,348	0.71
16	0	91,063	0	24,419	77,049	85,081	277,612	0.74
17	0	91,723	0	0	83,521	16,891	192,135	0.51
18	0	93,283	0	0	25,828	0	119,111	0.32
19	19,052	155,765	0	0	48,668	0	223,485	0.60
20	114,364	253,020	0	0	60,880	16,234	444,498	1.19
21	114,603	253,270	0	0	96,286	87,163	551,322	1.47
22	114,111	252,260	0	0	135,680	86,135	588,186	1
23	111,789	325,335	0	0	95,615	15,728	548,467	1.47
24	110,192	355,673	0	0	0	0	465,865	1.25
MG	304,597	5,370,469	77,756	383,421	1,324,129	674,141	8,968,648	
MGD	1.60	5.37	0.08	0.38	1.32	0.67	8.97	

Diurnal Water Demands July 23, 1992



APPENDIX G

Storage Tank and Pressure Plane Balance Sheets

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Med Center (WBAMC) — Balance for Tank 7241

HYDRO3TB.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Hourly Pumping Rate (gpm) *1	Hourly Storage Ingoing (gal)	Hourly Storage Outgoinn (gal)	Cummulative Storage *2 (gal)
						700,000
1:00	1.45	40,716	24,996	0	24,996	675,004
2:00	1.32	37,066	21,346	0	21,346	653,658
3:00	0.97	27,238	16,658	0	16,658	637,000
4:00	1.07	30,046	18,466	94,080	18,466	712,614
5:00	0.91	25,553	13,973	94,080	13,973	792,721
6:00	0.87	24,430	12,850	94,080	12,850	873,951
7:00	1.07	30,046	18,466	94,080	18,466	949,565
8:00	1.19	33,415	17,695	86,010	17,695	1,017,880
9:00	1.34	37,627	21,907	86,010	21,907	1,051,983
10:00	1.39	39,031	0		67,886	994,097
11:00	1.02	28,642	0		67,886	926,211
12:00	0.96	26,957	0		67,886	858,325
13:00	1.07	30,046	0		67,886	790,439
14:00	0.76	21,341	0		67,886	642,553
15:00	0.71	19,937	0		67,886	654,667
16:00	0.74	20,779	72,779	85,140	72,779	667,028
17:00	0.51	14,321	69,321	85,140	69,321	682,847
18:00	0.32	8,986	63,986	85,140	63,986	604,001
19:00	0.60	16,848	71,848	85,140	71,848	617,293
20:00	1.19	33,415	73,635	94,080	73,635	637,738
21:00	1.48	41,558	25,833	77,940	25,833	689,845
22:00	1.57	44,066	24,266	77,940	24,266	743,499
23:00	1.47	41,278	25,558	1,439	25,558	719,380
24:00	1.25	35,100	19,380	0	19,380	700,000
	Totals	708,458	612,883	1,140,299	1,140,299	

*1 – Out of Tank 7241

*2 – Tank 7241

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Medical Center (WBAMC)

Balance for Tank 7090/7088
HYDROST.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Demand to Upper PP (gal)	Total Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage outgoing (gal)	Cummulative Storage *2 (gal)
								1,750,000
1:00	1.45	84,042	24996	109,038	134,034	101,183	134,034	1,717,149
2:00	1.32	76,507	21346	97,853	119,199	136,350	119,199	1,734,300
3:00	0.97	56,221	16658	72,879	89,537	232,560	89,537	1,877,323
4:00	1.07	62,017	18466	80,483	98,949	232,560	98,949	2,010,933
5:00	0.91	52,744	13973	66,717	80,690	232,560	80,690	2,162,804
6:00	0.87	50,425	12850	63,275	76,125	232,560	76,125	2,319,239
7:00	1.07	62,017	18466	80,483	98,949	232,560	98,949	2,452,849
8:00	1.19	68,972	17695	86,667	104,362	136,350	104,362	2,484,837
9:00	1.34	77,665	21907	99,573	121,480	136,350	121,480	2,499,707
10:00	1.39	80,564	0	80,564	0		87,900	2,411,807
11:00	1.02	59,119	0	59,119	0		87,900	2,323,907
12:00	0.96	55,642	0	55,642	0		87,900	2,236,007
13:00	1.07	62,017	0	62,017	0		87,900	2,148,107
14:00	0.76	44,050	0	44,050	0		87,900	2,060,207
15:00	0.71	41,152	0	41,152	0		87,900	1,972,307
16:00	0.74	42,890	72779	115,669	156,448	221,820	156,448	2,005,678
17:00	0.51	29,560	69321	98,881	166,202	221,820	166,202	2,059,297
18:00	0.32	18,547	63986	82,533	146,519	221,820	146,519	2,134,597
19:00	0.60	34,776	71848	106,624	176,472	221,820	176,472	2,177,945
20:00	1.19	68,972	73635	142,607	216,242	136,350	216,242	2,098,053
21:00	1.46	85,781	25833	111,614	137,447	136,350	137,447	2,096,956
22:00	1.57	90,997	24286	115,283	139,569	40,140	139,569	1,997,527
23:00	1.47	85,201	25558	110,759	136,317	0	136,317	1,861,210
24:00	1.25	72,450	18980	91,430	111,210	0	111,210	1,750,000
		1,462,331	612,983	2,075,314	2,345,753	2,873,153	2,873,153	

1 – Out of 7088/7090
2 – Tank 7090/7088

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

William Beaumont Army Med Center (WBAMC) — Upper Pressure Plane
HYDRO3T.WK1

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage Outgoing (gal)	Cummulative Storage *2 (gal)
						925,000
1:00	1.45	40,716	24,996		(15,720)	909,280
2:00	1.32	37,066	21,346		(15,720)	893,560
3:00	0.97	27,238	15,658		(11,580)	881,980
4:00	1.07	30,046	18,466		(11,580)	870,400
5:00	0.91	25,553	13,973		(11,580)	858,820
6:00	0.87	24,430	12,850		(11,580)	847,240
7:00	1.07	30,046	18,466		(11,580)	835,660
8:00	1.19	33,415	17,695		(15,720)	819,940
9:00	1.34	37,627	21,907		(15,720)	804,220
10:00	1.39	39,031	0		(11,580)	792,640
11:00	1.02	28,642	0		(11,580)	781,060
12:00	0.96	26,957	0		(11,580)	769,480
13:00	1.07	30,046	0		(11,580)	757,900
14:00	0.76	21,341	0		(11,580)	746,320
15:00	0.71	19,937	0		(11,580)	[illegible]740
16:00	0.74	20,779	72,779	52,000		[illegible]740
17:00	0.51	14,321	69,321	55,000		841,740
18:00	0.32	8,986	63,986	55,000		896,740
19:00	0.60	16,846	71,846	55,000		951,740
20:00	1.19	33,415	73,635	40,220		991,960
21:00	1.48	41,558	25,838		(15,720)	976,240
22:00	1.57	44,086	24,286		(19,800)	956,440
23:00	1.47	41,278	25,558		(15,720)	940,720
24:00	1.25	35,100	19,380		(15,720)	925,000
	Totals		611,986	257,220	(257,220)	

1 – Out of Tank 7241
2 – Tank 7775

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

Fort Bliss Pressure Plane -- Lower

HYDRO5B.WK

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Demand to Middle PP (gal)	Total Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Hourly Storage Ingoing (gal)	Hourly Storage outgoing (gal)	Cummulative Storage *2 (gal)
								3,300,000
1:00	1.45	587,685	123,000	710,685	660,000		(50,685)	3,350,685
2:00	1.32	534,996	123,000	657,996	660,000	2,004		3,352,689
3:00	0.97	393,141	123,000	516,141	660,000	143,859		3,496,548
4:00	1.07	433,671	123,000	556,671	666,508	109,837		3,606,385
5:00	0.91	368,823	123,000	491,823	762,000	270,177		3,876,562
6:00	0.87	352,611	123,000	475,611	762,000	286,389		4,162,951
7:00	1.07	433,671	123,000	556,671	762,000	205,329		4,368,280
8:00	1.19	482,307	123,000	605,307	762,000	156,693		4,524,973
9:00	1.34	543,102	123,000	666,102	732,000	65,898		4,620,871
10:00	1.39	563,367	0	563,367	0		(563,367)	4,057,504
11:00	1.02	413,406	0	413,406	0		(413,406)	3,644,098
12:00	0.96	389,088	0	389,088	0		(389,088)	3,255,010
13:00	1.07	433,671	0	433,671	0		(433,671)	2,821,339
14:00	0.76	308,028	0	308,028	0		(308,028)	2,513,311
15:00	0.71	287,763	0	287,763	0		(287,763)	2,225,548
16:00	0.74	299,922	123,000	422,922	660,000	237,078		2,462,626
17:00	0.51	206,703	123,000	329,703	660,000	330,297		2,792,923
18:00	0.32	129,696	123,000	252,696	660,000	407,304		3,200,227
19:00	0.60	243,180	123,000	366,180	660,000	293,820		3,494,047
20:00	1.19	482,307	123,000	605,307	660,000	54,693		3,548,740
21:00	1.48	599,844	123,000	722,844	660,000		(62,844)	3,485,896
22:00	1.57	636,321	123,000	759,321	660,000		(99,321)	3,386,575
23:00	1.47	595,791	102,000	697,791	660,000		(37,791)	3,348,784
24:00	1.25	506,625	100,789	607,414	660,000	52,586		3,401,370
		10,225,719	2,170,789		12,396,508	(2,645,964)	(2,645,964)	

*1 -- Out of Tanks 1318, 1319, 3690, 3691, 3692

*2 -- Tanks 7088/7090, 5300, 129, 493

FT BLISS WATER DISTRIBUTION SYSTEM STUDY

Balance for Water Well Pumping

HYDRO6B.WK

Time	Ratio of Hourly Demand to Peak Day	Hourly Demand (gal)	Demand to Lower PP (gal)	Total Hourly Demand (gal)	Hourly Pumping Rate (gph) *1	Well Pumping Rate (gph) Desert	Well Pumping Rate (gph) Pike	Total Well Rate (gph)	Hourly Storage ingoing (gal)	Hourly Storage outgoing (gal)	Cummulative Storage *2 (gal)
											1,595,200
1:00	1.45	587,685	123,000	710,685	0	440,400	237,000	677,400	677,400		2,272,600
2:00	1.32	534,996	123,000	657,996	0	440,400	237,000	677,400	677,400		2,950,000
3:00	0.97	393,141	123,000	516,141	767,400	440,400	237,000	677,400		(90,000)	2,860,000
4:00	1.07	433,671	123,000	556,671	767,400	440,400	237,000	677,400		(90,000)	2,770,000
5:00	0.91	368,823	123,000	491,823	767,400	440,400	237,000	677,400		(90,000)	2,680,000
6:00	0.87	352,611	123,000	475,611	767,400	440,400	237,000	677,400		(90,000)	2,590,000
7:00	1.07	433,671	123,000	556,671	767,400	440,400	237,000	677,400		(90,000)	2,500,000
8:00	1.19	482,307	123,000	605,307	836,950	440,400	237,000	677,400		(161,550)	2,338,450
9:00	1.34	543,102	123,000	666,102	836,950	440,400	237,000	677,400		(161,550)	2,176,900
10:00	1.39	563,367	0	563,367	0	0	0	0		0	2,176,900
11:00	1.02	413,406	0	413,406	0	0	0	0		0	2,176,900
12:00	0.96	389,069	0	389,069	0	0	0	0		0	2,176,900
13:00	1.07	433,671	0	433,671	0	0	0	0		0	2,176,900
14:00	0.76	308,028	0	308,028	0	0	0	0		0	2,176,900
15:00	0.71	287,763	0	287,763	0	0	0	0		0	2,176,900
16:00	0.74	299,922	123,000	422,922	845,580	440,400	237,000	677,400		(168,180)	2,008,720
17:00	0.51	206,700	123,000	329,700	845,580	440,400	237,000	677,400		(168,180)	1,840,540
18:00	0.32	129,696	123,000	252,696	845,580	440,400	237,000	677,400		(168,180)	1,672,360
19:00	0.60	243,180	123,000	366,180	845,580	440,400	237,000	677,400		(168,180)	1,504,180
20:00	1.19	482,307	123,000	605,307	836,950	440,400	237,000	677,400		(161,550)	1,342,630
21:00	1.46	599,844	123,000	722,844	836,950	440,400	237,000	677,400		(161,550)	1,181,080
22:00	1.57	636,321	123,000	759,321	910,500	440,400	237,000	677,400		(233,100)	947,980
23:00	1.47	595,791	102,000	697,791	836,950	440,400	237,000	677,400		(161,550)	786,430
24:00	1.25	506,625	100,789	607,414	71,938	440,400	237,000	677,400	605,462		1,391,892
		10,225,719	2,170,789	12,396,508	12,396,509			12,193,200	1,960,262	163,570	

*1 – Out of Tanks 1318, 1319, 3690, 3691, 3692

*2 – Tanks 1318, 1319, 3690, 3691, 3692

Daily Loss of 203,308

APPENDIX H - Computer Model Printout

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          * * * * * * * * * *  K Y P I P E 2 .  * * * * * * * * * *
          *   University of Kentucky Hydraulic Analysis Progra-    *
          * Distribution of Pressure and Flows in Piping Networks *
          *          (C)9 PIPE VERSION - 1 00   (C)/01/9-         *
          * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

DATE  07/13/94
TIME  16 48 19 29

INPUT DATA FILENAME ..... ..... B \KYIPLUS\P88KC01 DAT
TABULATED OUTPUT FILENAME ..... C \KYIPLUS\P88KC01 OUT
POSTSCRIPT VERSION DEFAULT FILENAME ... D \KYIPLUS\P88KC01 PS5

                ****************************************
                S U M M A R Y   O F   O R I G I N A L   D A T A
                ****************************************


U N I T S   S P E C I F I E D

   FLOWRATE . . . . .. = gallons/minute
   HEAD (HGL) . .. .. = feet
   PRESSURE .... = psig


R E G U L A T I N G   V A L V E   D A T A

 RV    VALVE     POSITION     CONTROLLED     VALVE
LABEL  TYPE      JUNCTION       NODE       SETTING
                                          (ft of H2O)
..... ..... ... . ..... .....
  R.   PRV-1       364          467        4919 40


P I P E L I N E   D A T A

STATUS CODE.   XX -CLOSED PIPE    FC -FIXED GRADE NODE    PU -PUMP LINE
               CV -CHECK VALVE    RV -REGULATING VALVE

  PIPE       NODE NOD       LENGTH    DIAMETER R-ROUGHNESS PUMP   MINOR LOSS MIN-HGL
 NUMBER      #1    #2        (ft)        (in)     COEFF   LABEL.   COEFF      (ft)
..... ..... ..... ..... ..... ..... ..... ..... .....
    1          1     2      1020 0       6 0      120 00              0.00
    2          2     3      1020 0       6.0      120 00              0.00
    3          3     4       660.0       6.0      120 00              0.00
    4          4     5       780 0       6 0      120 00              0 00
    5          5     6      1660.0       6 0      120 00              0.00
    6          6     8       760.0       6 0      120 00              0 00
    7          8     7       360 0       6.0      120 00              0 00
    8          8     9       320.0       6 0      120 00              0 00
    9          9     3       450 0       8 0       90 00              0 00
   10         10     2       320 0       8 0       90 00              0 00
   11         11     1       380 0       8 0       90 00              0 00
   12         10    11      1020 0       6 0       90 00              0 00
   13         10     7      1980 0       6.0       90 00              0 00
   14          9     7       360 0       6 0      120 00              0 00
   15          6     9       800 0       6 0      120 00              0 00
   16          7    10       990 0       6 0      120 00              0 00
   17         21    10      1040 0       6.0      120 00              0 00
   18         10    12       630 0       6 0      120 00              0.00
   19         12     9       380 0       6 0      120 00              0.00
   20         24    13       640.0       6.0       90 00              0.00
   21         17    25       220 0       8 0      120 00              0.00
   22         17    14       220 0       6 0      120 00              0 00
   23         26    16       350 0       8 0       90 00              0 00
   24         16    15       420 0       8 0       90 00              0 00
   25         15    14        90 0       8 0       90.00              0 00
   26         14     9       110 0       8 0       90 00              0 00
   27         27    15        72 0      12.0      110.00              0 00
   28         28    14        75 0       8 0       90.00              0 00
   29         27    28        90 0       8 0       90 00              0 00
   30         14    13      1307.0       8 0       90 00              0 00
   31         11    18       320 0       6.0       90 00              0 00
   32         12    11       130 0       8 0       90 00              0 00
   33         13    12      1020 0       6 0       90.00              0.00
   34         34    13       640 0       8 0       90 00              0.00
   35         33    34        80.0       6 0       90 00              0 00
   36         35    33       200.0       6 0       90 00              0 00
   37         11    32      1980 0       6.0       90 00              0 00
   38         32    28       180 0       6.0       90 00              0 00
   39         29    33        72 0       6 0       90 00              0 00
   40         27    31       290 0      12 0      120                 0 00
   41         30    29        75 0       8.0      120 /               0 00
   42 PU      31    A4       300 0      16 0      130 CC              0 /   1992 99
   43         31    30       340 0      12 0      130 00              0 00
   44         28    26       860.0       8 0       90 00              0 00
   45         26    25       220.0      10 0      130 00              0 00
   46         25    24       180 0      10 0      130 00              0 00
   47         24    23       850 0      10 0      130 00              0.00
   48         23    28       430 0       8 0       90 00              0 00
   49         28    31       810 0       6 0      120 00              0 00
   50         32    31       600.0       6.0      120 00              0 00
   51         32    33       950 0       7 0      120 00              0 00
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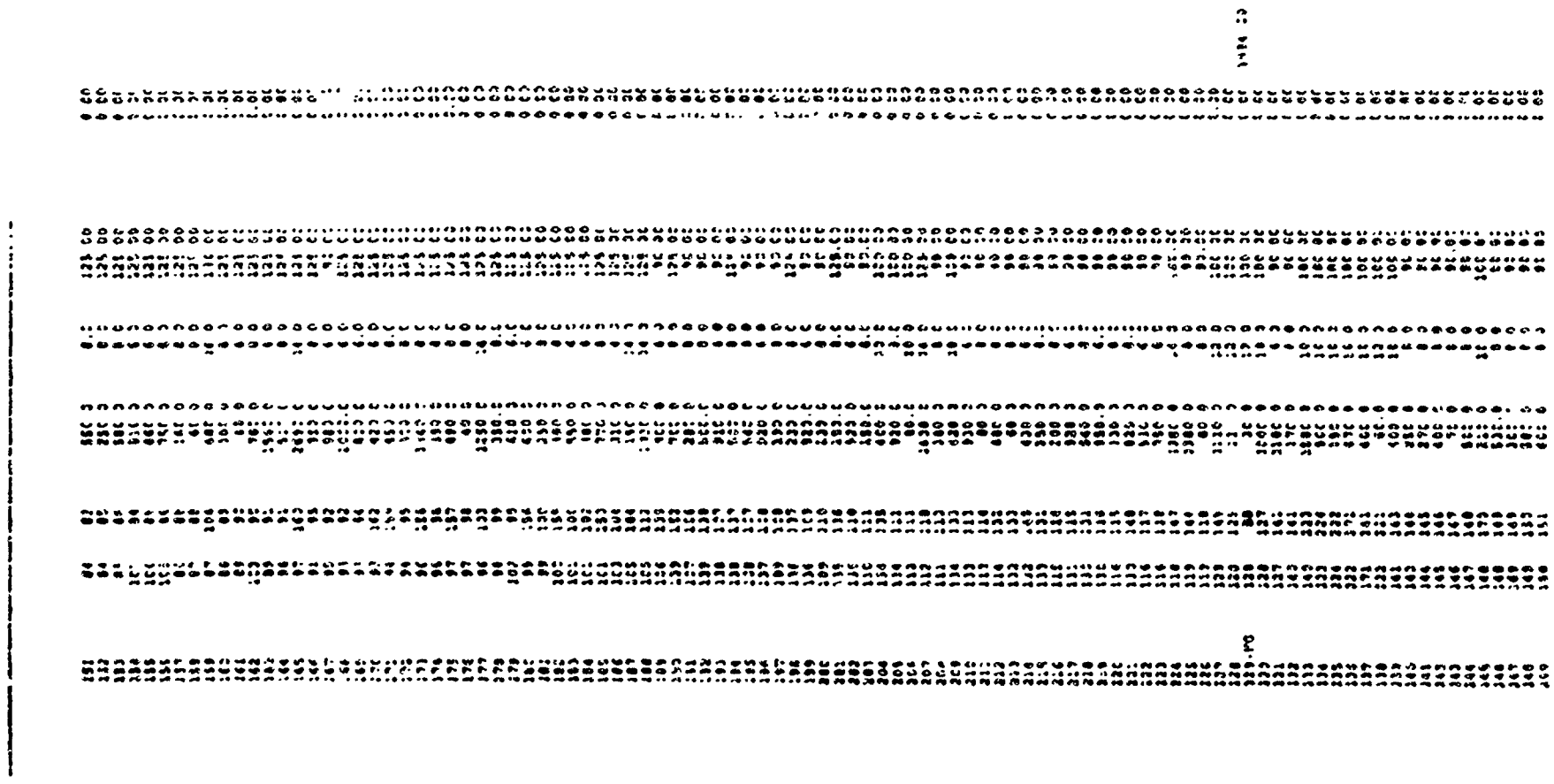
52	23	42	298.0	10.0	100.00	0.00
53	23	41	1048.0	6.0	120.00	0.00
54	41	34	348.0	8.0	135.00	0.00
55	31	39	908.0	16.0	130.00	0.00
56	41	41	368.0	8.0	135.00	0.00
57	45	43	298.0	10.0	100.00	0.00
58	42	43	878.0	6.0	125.00	1.00
59	32	43	[illegible]	6.0	125.00	1.00
60	46	43	[illegible]	6.0	90.00	0.00
61	44	45	1078.0	6.0	90.00	0.00
62	45	45	958.0	8.0	125.00	0.00
63	40	38	1150.0	8.0	125.00	0.00
64	39	38	1008.0	8.0	125.00	0.00
65	38	37	848.0	8.0	125.00	0.00
66	36	37	888.0	8.0	125.00	0.00
67	35	34	1748.0	6.0	125.00	0.00
68	34	35	1908.0	6.0	125.00	0.00
69	32	36	818.0	8.0	125.00	0.00
70	32	33	818.0	16.0	135.00	0.00
71	32	30	658.0	8.0	125.00	0.00
72	32	29	1318.0	8.0	135.00	1.00
73	29	28	378.0	10.0	100.00	0.00
74	46	44	378.0	6.0	90.00	0.00
75	46	47	1158.0	8.0	90.00	0.00
76	44	48	2348.0	6.0	125.00	0.00
77	45	46	1628.0	8.0	90.00	0.00
78	76	76	3978.0	6.0	90.00	1.00
79	76	48	1118.0	3.0	111.00	0.00
80	48	49	388.0	8.0	125.00	0.00
81	42	48	868.0	8.0	90.00	0.00
82	44	42	918.0	8.0	90.00	0.00
83	46	46	1288.0	6.0	90.00	0.00
84	48	47	838.0	10.0	100.00	0.00
85	65	64	348.0	10.0	100.00	1.00
86	66	67	858.0	10.0	100.00	0.00
87	65	73	1188.0	6.0	90.00	0.00
88	73	75	30.0	6.0	90.00	0.00
89	73	134	338.0	6.0	90.00	0.00
90	75	136	118.0	6.0	90.00	0.00
91	137	134	1588.0	6.0	90.00	3.00
92	133	134	868.0	6.0	90.00	0.00
93	135	76	1268.0	6.0	90.00	0.00
94	75	76	138.0	6.0	90.00	0.00
95	76	77	728.0	6.0	125.00	0.00
96	77	67	1888.0	10.0	100.00	0.00
97	77	70	468.0	8.0	90.00	0.00
98	78	68	868.0	10.0	100.00	0.00
99	67	68	468.0	10.0	100.00	0.00
100	67	63	468.0	6.0	90.00	0.00
101	67	63	338.0	12.0	100.00	0.00
102	68	69	858.0	10.0	100.00	0.00
103	68	59	1108.0	6.0	90.00	0.00
104	63	61	358.0	12.0	100.00	0.00
105	61	62	438.0	6.0	90.00	0.00
106	61	60	788.0	15.0	100.00	0.00
107	60	60	408.0	10.0	100.00	0.00
108	59	60	698.0	6.0	90.00	0.00
109	60	57	388.0	12.0	100.00	0.00
110	57	59	468.0	6.0	90.00	0.00
111	57	59	468.0	6.0	90.00	0.00
112	59	60	298.0	6.0	90.00	0.00
113	60	61	1258.0	8.0	125.00	0.00
114	56	56	788.0	7.0	125.00	0.00
115	54	50	788.0	7.0	125.00	1.00
116	51	54	1888.0	10.0	110.00	0.00
117	53	54	788.0	6.0	125.00	0.00
118	53	52	1068.0	8.0	125.00	0.00
119	54	51	788.0	10.0	110.00	0.00
120	51	52	428.0	8.0	125.00	0.00
121	52	55	628.0	8.0	125.00	0.00
122	51	57	918.0	16.0	130.00	0.00
123	58	55	1358.0	8.0	125.00	0.00
124	53	58	1168.0	10.0	100.00	0.00
125	58	59	1828.0	6.0	90.00	0.00
126	78	65	668.0	6.0	90.00	0.00
127	69	80	738.0	6.0	90.00	0.00
128	78	79	388.0	8.0	90.00	0.00
129	78	131	958.0	12.0	100.00	0.00
130	77	132	948.0	12.0	100.00	0.00
131	133	133	488.0	6.0	110.00	0.00
132	133	136	1088.0	6.0	90.00	0.00
133	136	142	1468.0	6.0	90.00	0.00
134	136	136	348.0	7.0	90.00	0.00
135	136	143	1938.0	12.0	100.00	0.00
136	134	136	358.0	12.0	100.00	0.00
137	139	131	1138.0	10.0	100.00	0.00
138	131	130	388.0	12.0	110.00	0.00
139	131	79	338.0	8.0	90.00	0.00
140	78	81	788.0	8.0	125.00	0.00
141	116	119	948.0	8.0	90.00	0.00
142	120	88	858.0	6.0	90.00	0.00
143	119	88	898.0	8.0	125.00	0.00
144	119	91	868.0	6.0	90.00	0.00
145	88	91	338.0	6.0	90.00	0.00
146	91	79	788.0	8.0	125.00	0.00
147	91	83	818.0	6.0	90.00	0.00
148	119	83	818.0	10.0	100.00	0.00
149	83	83	408.0	8.0	125.00	0.00
150	120	83	[illegible]	6.0	125.00	0.00



251	181	182	670.0	0.0	90.00	0.00
252	183	184	820.0	0.0	135.00	
253	184	185	440.0	0.0	135.00	
254	185	186	330.0	0.0	135.00	
255	186	187	420.0	0.0	135.00	
256	187	188	850.0	0.0	135.00	
257	188	189	630.0	1.0	135.00	
258	189	190	150.0	0.0	135.00	
259	190	191	60.0	0.0	135.00	
260	191	192	870.0	0.0	135.00	
261	192	193	480.0	0.0	135.00	
262	193	194	1240.0	0.0	135.00	
263	194	195	480.0	0.0	135.00	
264	195	196	680.0	0.0	135.00	
265	196	197	630.0	0.0	135.00	
266	197	198	1200.0	0.0	135.00	
267	198	199	1950.0	0.0	135.00	
268	199	200	2240.0	0.0	135.00	
269	200	201	300.0	0.0	90.00	
270	201	202	300.0	0.0	90.00	
271	202	203	600.0	0.0	90.00	
272	203	204	470.0	0.0	90.00	
273	204	205	300.0	0.0	90.00	
274	205	206	600.0	0.0	90.00	
275	206	207	300.0	0.0	90.00	
276	207	208	200.0	0.0	90.00	
277	208	209	900.0	10.0	180.00	
278	209	210	540.0	0.0	90.00	
279	210	211	300.0	0.0	90.00	
280	211	212	520.0	10.0	180.00	
281	212	213	510.0	0.0	90.00	
282	213	214	350.0	10.0	180.00	
283	214	215	900.0	10.0	180.00	
284	215	216	400.0	0.0	90.00	
285	216	217	280.0	0.0	90.00	
286	217	218	780.0	0.0	90.00	
287	218	219	410.0	0.0	90.00	
288	219	220	280.0	0.0	90.00	
289	220	221	340.0	0.0	90.00	
290	221	222	320.0	0.0	135.00	0.00
291	222	223	320.0	0.0	135.00	
292	223	224	320.0	0.0	135.00	
293	224	225	1090.0	10.0	180.00	
294	225	226	90.0	0.0	90.00	
295	226	227	340.0	10.0	180.00	
296	227	228	280.0	10.0	180.00	
297	228	229	280.0	10.0	180.00	
298	229	230	180.0	10.0	180.00	
299	230	231	220.0	10.0	180.00	
300	231	232	160.0	10.0	180.00	
301	232	233	160.0	10.0	180.00	
302	233	234	90.0	0.0	90.00	
303	234	235	60.0	10.0	180.00	
304	235	236	80.0	10.0	180.00	
305	236	237	80.0	10.0	180.00	
306	237	238	1280.0	10.0	180.00	
307	238	239	640.0	10.0	180.00	
308	239	240	690.0	0.0	90.00	
309	240	241	180.0	10.0	180.00	
310	241	242	220.0	10.0	180.00	
311	242	243	1100.0	10.0	180.00	
312	243	244	2350.0	0.0	135.00	
313	244	245	730.0	0.0	90.00	
314	245	246	2130.0	10.0	180.00	
315	246	247	400.0	0.0	90.00	
316	247	248	480.0	0.0	90.00	
317	248	249	320.0	0.0	90.00	
318	249	250	590.0	0.0	90.00	
319	250	251	320.0	0.0	90.00	
320	251	252	220.0	0.0	90.00	
321	252	253	250.0	0.0	90.00	
322	253	254	260.0	0.0	90.00	
323	254	255	940.0	0.0	90.00	
324	255	256	1690.0	0.0	90.00	
325	256	257	90.0	0.0	90.00	
326	257	258	230.0	0.0	135.00	
327	258	259	80.0	0.0	135.00	
328	259	260	440.0	0.0	135.00	
329	260	261	370.0	0.0	90.00	
330	261	262	85.0	10.0	180.00	
331	262	263	185.0	0.0	135.00	
332	263	264	430.0	10.0	180.00	
333	264	265	1100.0	0.0	135.00	
334	265	266	430.0	0.0	135.00	
335	266	267	690.0	0.0	135.00	
336	267	268	670.0	0.0	135.00	
337	268	269	420.0	0.0	135.00	
338	269	270	680.0	0.0	135.00	

480	382	380	660.0	14.0	130.00	0.00
481	384	385	910.0	14.0	130.00	0.00
482	387	386	2275.0	5.0	90.00	0.00
483	387	388	130.	6.0	90.00	0.00
484	387	386	176. 0	6.0	90.00	0.00
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486	383	383	414. 0	6.0	90.00	0.00
487	382	385	1380.0	6.0	90.00	0.00
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489	384	382	180.0	6.0	90.00	0.00
490	382	387	1130.0	6.0	90.00	0.00
491	388	387	390.0	6.0	90.00	0.00
492	387	389	990.0	6.0	90.00	0.00
493	389	388	90.0	6.0	90.00	0.00
494	388	383	180.0	4.0	90.00	0.00
495	381	382	680.0	4.0	90.00	0.00
496	383	384	510.0	6.0	90.00	0.00
497	385	386	600.0	6.0	90.00	0.00
498	387	385	470.0	6.0	120.00	0.00
499	387	388	310.0	6.0	120.00	0.00
500	386	383	180.0	4.0	115.00	0.00
501	383	381	180.0	6.0	120.00	2.00
502	381	380	300.0	6.0	90.00	0.00
503	383	389	730.0	10.0	130.00	0.00
504	389	389	770.0	10.0	100.00	0.00
505	388	389	1010.0	8.0	90.00	0.00
506	389	390	700.0	8.0	120.00	0.00
507	390	391	60.0	6.0	120.00	0.00
508	393	394	710.0	14.0	120.00	0.00
509	393	391	1790.0	14.0	120.00	0.00
510	395	396	1120.0	6.0	120.00	0.00
511	396	396	1670.0	6.0	120.00	0.00
512	398	399	1130.0	6.0	120.00	0.00
513	401	400	1380.0	6.0	120.00	0.00
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515	396	394	1620.0	6.0	90.00	0.00
516	394	393	1720.0	6.0	90.00	0.00
517	393	393	2110.0	6.0	90.00	0.00
518	393	393	1290.0	6.0	90.00	0.00
519	393	389	720.0	6.0	90.00	0.00
520	393	392	620.0	6.0	90.00	0.00
521	391	392	910.0	10.0	100.00	0.00
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523	395	394	850.0	16.0	160.00	0.00
524	396	397	960.0	6.0	90.00	0.00
525	398	398	1320.0	8.0	90.00	0.00
526	400	399	1210.0	7.0	120.00	0.00
527	396	397	1110.0	6.0	120.00	0.00
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529	399	396	690.0	10.0	160.00	0.00
530	399	398	90.0	10.0	160.00	0.00
531	396	397	180.0	10.0	160.00	0.00
532	391	397	290.0	10.0	160.00	0.00
533	392	391	320.0	6.0	90.00	0.00
534	391	393	180.0	6.0	90.00	0.00
535	390	393	280.0	6.0	90.00	0.00
536	397	397	190.0	6.0	90.00	0.00
537	396	397	190.0	6.0	90.00	0.00
538	391	390	130.0	6.0	90.00	0.00
539	392	391	280.0	6.0	120.00	0.00
540	395	392	260.0	6.0	120.00	0.00
541	396	395	210.0	6.0	120.00	0.00
542	393	395	210.0	6.0	120.00	0.00
543	392	390	140.0	6.0	120.00	0.00
544	386	389	260.0	6.0	90.00	0.00
545	388	388	210.0	6.0	90.00	0.00
546	387	390	210.0	6.0	90.00	0.00
547	386	388	230.0	6.0	90.00	0.00
548	389	393	210.0	6.0	90.00	0.00
549	393	394	140.0	14.0	130.00	0.00
550	394	394	1660.0	14.0	130.00	0.00
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552	395	396	480.0	14.0	130.00	0.00
553	396	395	290.0	8.0	120.00	0.00
554	395	395	280.0	8.0	120.00	0.00
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558	394	394	290.0	14.0	130.00	0.00
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560	396	396	890.0	8.0	120.00	0.00
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562	397	397	890.0	8.0	120.00	0.00
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564	393	393	290.0	8.0	120.00	0.00
565	396	396	730.0	14.0	130.00	0.00
566	393	395	70.0	14.0	130.00	0.00
567	397	396	1360.0	16.0	160.00	0.00
568	396	395	610.0	14.0	160.00	0.00
569	395	395	440.0	10.0	100.00	0.00
570	396	396	710.0	6.0	120.00	0.00
571	397	396	850.0	8.0	120.00	0.00
572	396	397	530.0	8.0	120.00	0.00
573	398	397	160.0	8.0	120.00	0.00
574	396	396	110.0	8.0	120.00	0.00
575	397	396	610.0	6.0	120.00	0.00
576	397	398	280.0	6.0	120.00	0.00

570	328	305	350.0	6.0	125.00					
579	333	309	3201.0	10.0	100.00					
580	336	304	401.0	6.0	122.00					
581	334	295	501.0	6.0	125.00					
582	289	288	701.0	6.0	125.00					
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592	330	309	391.0	6.0	125.00					
593	329	298	481.0	6.0	125.00					
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595	332	331	281.0	6.0	125.00					
596	331	326	361.0	6.0	125.00					
597 FD	110	CC	83.0	14.0	126.00				3333.33	
598	751	332	333.0	11.0	111.00				3379.55	
599-FD	111	DD	83.0	13.0	111.00					
600-XX	257	349	463.0	10.0	111.00					
601	333	338	99.0	11.0	109.00					
602	338	337	769.0	10.0	109.00					
603	337	336	488.0	6.0	98.00					
604	336	335	280.0	6.0	839.00					
605	336	337	270.0	6.0	98.00					
606	338	336	630.0	6.0	98.00					
607	336	349	910.0	6.0	98.00					
608	337	339	560.0	6.0	98.00					
609-XX	338	347	940.0	13.0	111.00					
610	340	339	130.0	6.0	97.00					
611	339	343	330.0	6.0	98.00					
612	340	341	290.0	6.0	98.00					
613	341	342	130.0	6.0	98.00					
614	341	342	130.0	6.0	98.00					
615	343	340	200.0	6.0	98.00					
616-XX	344	345	90.0	6.0	98.00					
617	324	345	970.0	10.0	125.00					
618	345	346	1180.0	10.0	125.00					
619	346	348	680.0	6.0	98.00					
620	347	347	190.0	6.0	98.00					
621	342	349	350.0	6.0	98.00					
622	347	349	180.0	6.0	98.00					
623	349	349	420.0	6.0	98.00					
624	345	352	800.0	10.0	100.00					
625	348	351	630.0	6.0	98.00					
626	351	350	330.0	6.0	98.00					
627	351	358	430.0	6.0	98.00					
628	353	353	320.0	6.0	98.00					
629	353	356	190.0	6.0	98.00					
630	346	354	490.0	6.0	98.00					
631	356	358	280.0	6.0	98.00					
632	358	359	410.0	6.0	98.00					
633	357	358	270.0	6.0	98.00					
634	352	359	190.0	6.0	98.00					
635	359	362	620.0	11.0	100.00					
636	360	350	380.0	10.0	100.00					
637	360	361	600.0	6.0	98.00					
638	361	362	230.0	6.0	98.00					
639-XX	361	365	830.0	6.0	98.00					
640	359	362	310.0	12.0	100.00					
641	359	359	480.0	6.0	109.00					
642	360	359	650.0	10.0	111.00					
643-FD	109	EE	699.0	11.0	111.00				6.35	90
644-FD	363	FF	33.0	13.0	100.00				4:16	90
645	361	362	530.0	13.0	100.00					
646	363	835	70.0	12.0	111.00					
647-XX	360	365	33.0	12.0	111.00					
648	364	379	2044.0	12.0	111.00					
649	328	366	393.0	13.0	111.00					
650	366	368	893.0	11.0	100.00					
651	1.0	367	1130.0	6.0	111.00					
652	36.	369	283.0	6.0	98.00					
653	369	368	1193.0	6.0	125.00					
654	369	370	283.0	6.0	83.00					
655	370	371	1213.0	6.0	125.00					
656	370	370	273.0	6.0	98.00					
657	370	376	713.0	6.0	125.00					
658	370	377	1083.0	6.0	125.00					
659	377	376	263.0	6.0	125.00					
660	377	373	333.0	6.0	98.00					
661	376	378	330.0	6.0	125.00					
662	378	374	940.0	10.0	111.00					
663	378	373	33.0	10.0	100.00					
664	374	373	170.0	6.0	91.00					
665	373	372	331.0	6.0	98.00					
666	372	371	370.0	10.0	100.00					
667	371	369	303.0	10.0	100.00					
668	373	389	641.0	12.0	111.00					
669-FD	389	GG	910.0	13.0	111.00				6.78	53
669	428	819	901.0	20.0	125.00					
839-FG	61	HH	70.0	13.0	100.00				3991	83
819-HH	833	911	70.0	16.0	100.00	0				
910-XXFH	833	921	70.0	16.0	100.00	91				
919-HH	821	II	180.0	20.0	130.00				3333.33	
149-HH	822	JJ	180.0	20.0	130.00				3633.33	

822-XXPU	822	824	70 0	14.0	126.00	P7	0 00		
823-PT	823	824	70 0	56 0	126.00	P4	0 00		
824-XXPU	824	364	70 0	12 0	126.00	P5	0 00		
825-XXPU	824	364	70 0	12 0	126.00	P6	0 00		
826-PG	NK	824	180 0	32 0	139 00		0.00	3918.00	
827-XXPU	826	819	130 0	22.0	138 00	P7	1 01		
828-XXPU	826	819	190 0	21 0	135 00	P8	1 01		
829-XXPU	826	819	180.0	22.0	123 00	P9	1.01		
830-XXPU	826	819	180.0	22 0	126 00	P10	1.01		
831	827	A30	1650 0	32 0	138 00		1.01		
900	801	900	8971 0	24 0	138.00		1.01		
930-PG	901	NK	32 0	14 0	100 00		0.01	3575 00	
911-XX	333	900	32 0	13 0	100 00		0 01		
912	902	333	800 0	19 0	100 00		0.01		
913-XX	701	333	32 0	13 0	100 00		0 01		
914-PG	701	NM	32 0	14 0	100 00		0 01	7157 00	

P U M P D A T A

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPE
817

DESCRIBED BY THE FOLLOWING DATA:

HEAD (ft)	FLOWRATE (gpm)
215.00	0.00
200.00	740.00
116.00	1760.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
818

DESCRIBED BY THE FOLLOWING DATA

HEAD (ft)	FLOWRATE (gpm)
280.00	0.00
178.00	1600.00
133.00	2910.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
820

DESCRIBED BY THE FOLLOWING DATA

HEAD (ft)	FLOWRATE (gpm)
176.00	0.00
143.00	800.00
119.00	1400.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
823

DESCRIBED BY THE FOLLOWING DATA

HEAD (ft)	FLOWRATE (gpm)
193.00	0.00
178.00	600.00
119.00	1200.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
824

DESCRIBED BY THE FOLLOWING DATA

HEAD (ft)	FLOWRATE (gpm)
203.00	0.00
183.00	1140.00
139.00	2900.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
826

DESCRIBED BY THE FOLLOWING DATA.

HEAD (ft)	FLOWRATE (gpm)
200.00	0.00
189.00	1040.00
170.00	1910.00

THERE IS A PUMP ID NO . IN THE FOLLOWING PIPES
827

DESCRIBED BY THE FOLLOWING DATA:

HEAD (ft)	FLOWRATE (gpm)
168.00	0.00
110.00	1300.00
90.00	1820.00

DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOWRATE (GPM)
106.00	0.00
101.00	2000.00
96.00	3000.00

THERE IS A PUMP ID NO. 9 IN THE FOLLOWING PIPES
639

DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOWRATE (GPM)
105.00	0.00
66.00	2000.00
26.00	3000.00

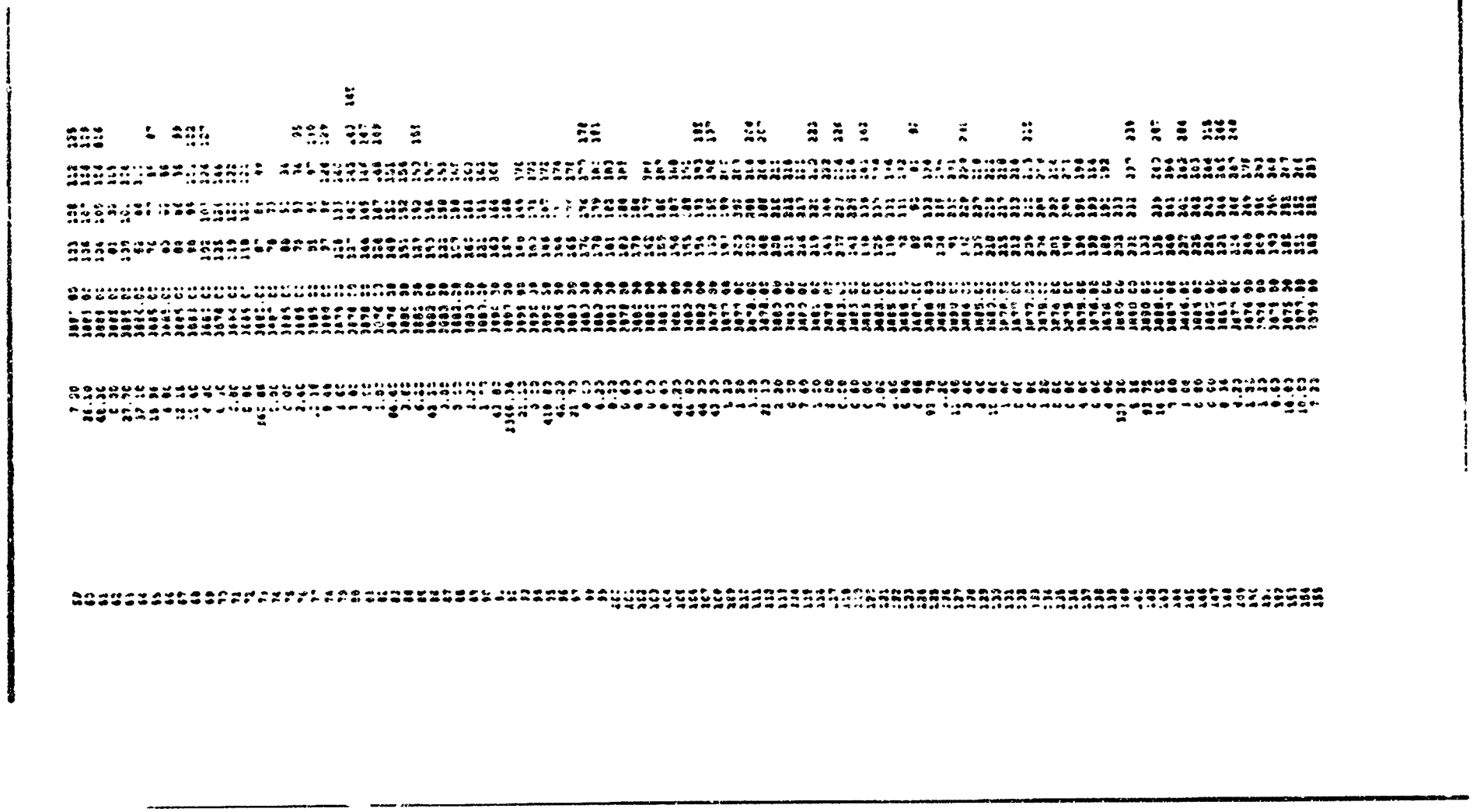
THERE IS A PUMP ID NO. 11 IN THE FOLLOWING PIPES
641

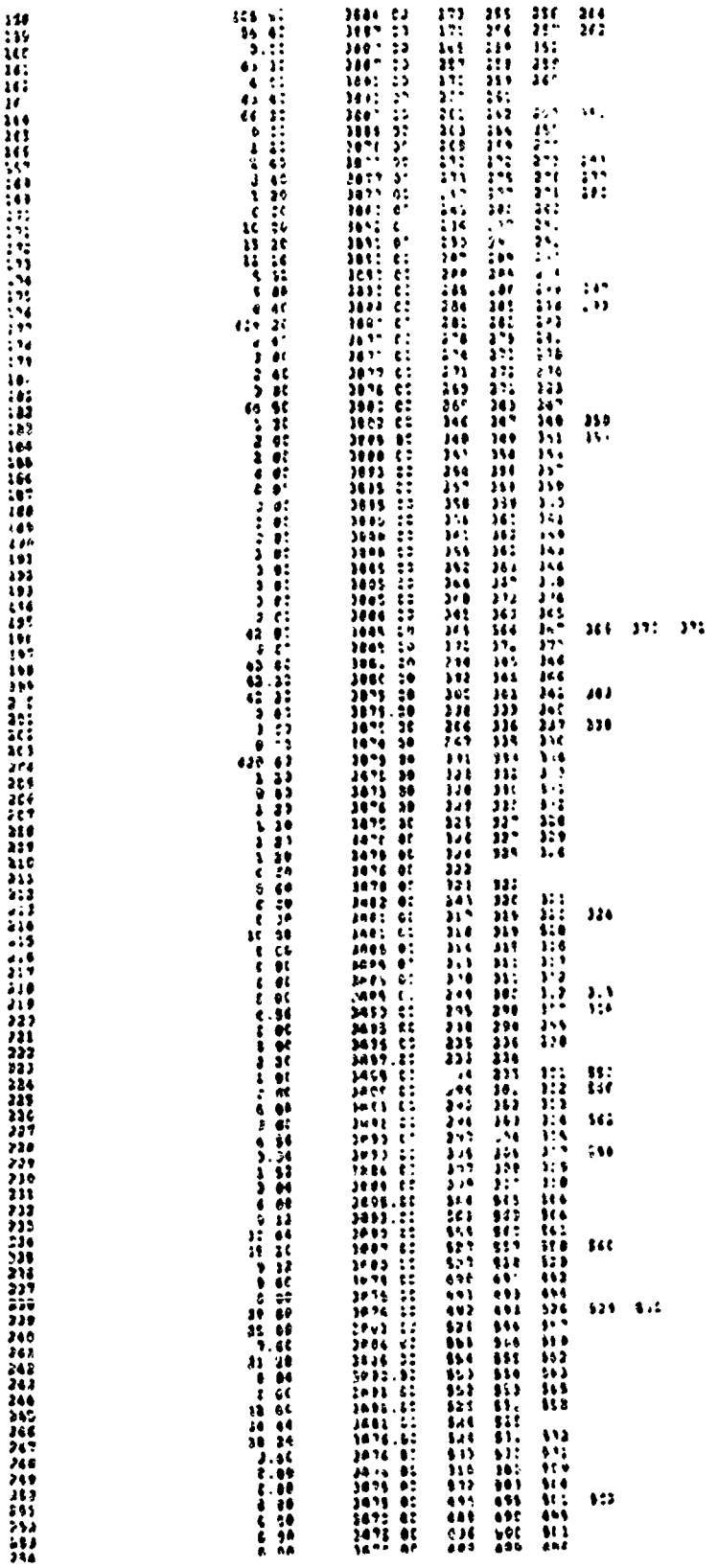
DESCRIBED BY THE FOLLOWING DATA

HEAD (FT)	FLOWRATE (GPM)
210.00	0.00
166.00	2000.00
123.00	4000.00

J U N C T I O N N O D E D A T A

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	JUNCTION ELEVATION (FT)	CONNECTING PIPES			
1		1.20	3010.00	1	11		
2		1.80	3020.00	1	2	10	
3		28.40	3010.00	2	3	9	
4		62.28	3020.00	3	4	5	
5		64.72	3007.00	4	6	8	
6		41.84	3060.00	5	6	7	
7		9.84	3007.00	7	15	16	19
8		11.44	3050.00	8	14	15	
9		7.80	3090.00	9	12	14	20
10		4.20	3060.00	10	12	13	21
11		0.00	3007.00	11	17	22	
12		0.00	3007.00	12	13	24	
13		0.00	3000.00	13	23	23	30
14		0.00	3090.00	25	26	29	31
15		0.00	3090.00	26	25	2	
16		0.00	3095.00	21	27	28	
17		0.00	3092.00	22	26		
18		12.96	3097.00	16	17	18	
19		0.00	3097.00	19	19	32	
20		0.00	3095.00	60	69		
21		0.00	3095.00	17	49	51	
22		16.56	3095.00	50	51	59	
23		11.30	3097.00	47	48	52	86 91
24		43.20	3094.00	37	48	49	76
25		23.20	3096.00	31	47	47	
26		0.00	3093.00	33	44	45	
27		0.00	3096.00	27	32	41	
28		0.00	3098.00	38	39	38	
29		0.00	3092.00	35	41	44	
30		0.00	3093.00	42	43	43	
31		0.00	3092.00	43	42	42	
32		0.00	3091.00	37	36	35	
33		0.00	3087.00	34	38	37	
34		0.00	3091.00	30	31	40	
35		0.00	3090.00	67	66		
36		0.00	3089.00	68	66	65	
37		0.00	3093.00	62	64		
38		0.00	3091.00	63	64	65	
39		0.00	3087.00	65	64	72	
40		80.60	3093.00	69	63	61	
41		125.80	3086.00	53	58	58	
42		0.00	3092.00	52	54	60	
43		0.00	3091.00	56	55	61	
44		21.28	3080.00	61	62	74	75
45		37.96	3091.00	57	62	62	73
46		22.48	3087.00	74	78	77	83
47		18.16	3089.00	73	74		
48		22.90	3087.00	79	80	82	107
49		4.80	3067.00	78	80	104	111
50		28.48	3087.00	71	78	102	
51		0.00	3087.00	75	76		
52		0.00	3089.00	84	91		
53		0.00	3090.00	115	118		
54		0.00	3086.00	114	119	119	
55		16.00	3086.00	113	116	122	
56		15.20	3086.00	114	125		
57		0.00	3088.00	118	123	121	





257	9.00	3875.00	334	387	393			
258	137.50	3870.00	393	394	407			
259	0.00	3871.00	379	386	391			
260	1.00	3876.00	388	393	383			
261	0.00	3875.00	383	384	385			
262	0.00	3876.00	385	385				
263	0.00	3875.00	377	378	375			
264	0.00	3879.00	381	377	387			
265	0.00	3876.00	378	377	378			
266	0.00	3879.00	398	387	389			
267	2.00	3885.00	371	375	376			
268	0.00	3892.00	402	413	419			
269	0.00	3893.00	411	412	413	417		
270	0.00	3892.00	410	412	418	430		
271	0.00	3888.00	408	409	410	421		
272	0.00	3882.00	405	406	422			
273	0.00	3880.00	384	406	407			
274	0.00	3880.00	389	399	406			
275	0.00	3879.00	389	384				
276	1.00	3876.00	386	392	391			
277	3.00	3873.00	382	391	392	394		
278	0.00	3876.00	396	402				
279	1.00	3874.00	386	397	400	402		
280	5.40	3873.00	395	396	397			
281	1.00	3876.00	390	397	398	399	404	
282	0.00	3876.00	402	404	405			
283	0.00	3878.00	400	401	402	409		
284	0.00	3876.00	401	451				
285	1.00	3873.00	381	451	451			
286	137.50	3870.00	394	452	453	454		
287	1.00	3873.00	498	498				
288	0.00	3878.00	439	504	505			
289	0.00	3878.00	505	506				
290	1.00	3870.00	506	507	508	539		
291	16.20	3876.00	521	532	513			
292	20.24	3880.00	520	521	522			
293	22.00	3890.00	522	548	549	551		
294	0.00	3891.00	521	548	596			
295	1.00	3884.00	521	546	569			
296	12.16	3888.00	567	568	581			
297	0.00	3868.00	567	632	602			
298	59.00	3838.00	582	584	593			
299	0.00	3829.00	582	583	593			
300	12.16	3820.00	565	591	592			
301	12.16	3840.00	583	586	585	594		
302	12.16	3844.00	586	596	595			
303	53.68	3919.00	586	590	591			
304	22.80	3910.00	590	595	591			
305	19.64	3898.00	569	970	971			
306	0.12	3910.00	572	570	580			
307	6.08	3900.00	571	572	573			
308	0.00	3900.00	573	576	599			
309	4.56	3886.00	619	567	568			
310	0.00	3887.00	617	566	567			
311	6.08	3881.00	618	619	620			
312	13.96	3875.00	618	623	630			
313	0.00	3873.00	617	634	638			
314	0.00	3876.00	616	636	636			
315	0.00	3866.00	616	646	646			
316	0.00	3886.00	618	644	649			
317	0.00	3874.00	612	626	627			
318	2.60	3874.00	624	617	638			
319	0.00	3885.00	624	633	644			
320	0.12	3886.00	623	642	643			
321	1.60	3875.00	607	615	678	639		
322	17.00	3871.00	619	639	640			
323	13.16	3888.00	624	641	643			
324	14.32	3886.00	640	613	641			
325	23.56	3875.00	625	633	640			
326	0.00	3865.00	674	675	677			
327	13.16	3815.00	675	676				
328	0.00	3813.00	676	677	678			
329	25.00	3815.00	688	689				
330	25.00	3815.00	687	695	695			
331	34.32	3844.00	687	698	696	526		
332	0.00	3868.00	697	698	611	721		
333	0.00	3868.00	679	695	611	612	913	
334	0.00	3892.00	696	606	607			
335	0.00	3885.00	681	604	616			
336	0.00	3892.00	607	608	607			
337	167.33	3868.00	611	605	618			
338	0.00	3878.00	631	602	608			
339	0.00	3878.00	609	610	611			
340	0.00	3878.00	619	612				
341	0.00	3892.00	612	613	614			
342	0.00	3898.00	611	614				
343	0.00	3898.00	615	618	621			
344	0.16	3898.00	615	618	619			
345	7.00	3886.00	616	617	618			
346	3.00	4890.00	619	620	616			
347	0.00	4885.00	608	620	621			
348	21.00	4897.00	625	632	623	625		
349	61.00	3890.00	600	627	623	634		

356	1.00	4040.00	638	642				
357	1.00	4030.00	632	633	636			
358	1.00	4040.00	641	642	643			
359	722.00	4050.00	633	635	640	66.		
360	1.00	4035.00	635	636	637			
361	1.00	4032.00	637	638	639			
362	1.00	4050.00	638	642	645			
363	1.00	4039.00	644	645	646			
364	1.00	4130.00	647	648	926	651		
365	6.00	4100.00	639	649	669			
366	4.00	4135.00	649	650	651			
367	11.00	4125.00	651	652				
368	6.00	4110.00	650	653	667			
369	35.00	4117.00	653	653	654			
370	12.16	4130.00	654	655	654			
371	13.00	4.00.00	655	666	667			
372	28.13	4138.00	663	665	650			
373	15.25	4[illegible].00	663	664	665			
374	23.13	4[illegible].00	665	666				
375	4.00	41[illegible].00	661	662	663			
376	9.00	41[illegible].00	659	659	661			
377	2.00	4102.00	650	659	610			
378	38.26	4141.00	656	657	658			
379	37.35	4103.00	660	666				
380	37.35	4102.00	660	659				
381	134.00	3875.00	653	656	655			
382	8.00	3872.00	656	657				
383	8.00	3871.00	652	655	656			
384	6.00	3873.00	643	649				
385	6.00	3875.00	639	640	657			
386	6.00	3874.00	643	643	642	643		
387	6.00	3878.00	643	647				
388	6.00	3877.00	646	647				
389	6.00	3879.00	641	642	646	648		
390	6.00	3876.00	648	649	652			
391	6.00	3873.00	646	647				
392	6.00	3885.00	636	639				
393	6.00	3883.00	634	635	636			
394	6.00	3883.00	632	627	628			
395	6.00	3885.00	632	633	634			
396	6.00	3888.00	621	623	624	633		
397	1.00	3887.00	370	607	623			
398	6.00	3889.00	616	618	619	620		
399	6.00	3889.00	619	626	625	631		
400	6.00	3889.00	630	631	632			
401	1.00	3894.00	628	629	692			
402	6.00	3894.00	619	621	624	629		
403	6.00	3896.00	627	628				
404	6.00	3898.00	615	616	617			
405	6.00	3895.00	623	618	616			
427	6.00	3902.00	374	611				
428	6.00	3902.00	626	611				
513	6.00	3899.00	626	627	628	624	616	
521	6.00	3903.00	312	314	317	618		
522	6.00	3903.00	619	618	619	620		
523	1.00	3906.00	622	622	623			
524	6.00	3906.00	619	622	623			
525	6.00	4109.00	666	626	925			
526	8.00	3900.00	616	619	620	629	630	
699	1035.00	3905.00	594	920				
700	1.00	3906.00	606	613	611	915		
701	1.00	3908.00	607	611	616			

OUTPUT OPTION DATA

OUTPUT SELECTION - ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT
MAXIMUM AND MINIMUM PRESSURES = 1
MAXIMUM AND MINIMUM HEAT LOSS/FLOW = 1

SYSTEM CONFIGURATION

NUMBER OF PIPES	10	851
NUMBER OF JUNCTION NODES	10	431
NUMBER OF PRIMARY LOOPS	1	211
NUMBER OF FIXED GRADE NODES	2	33
NUMBER OF SUPPLY NODES	10	1

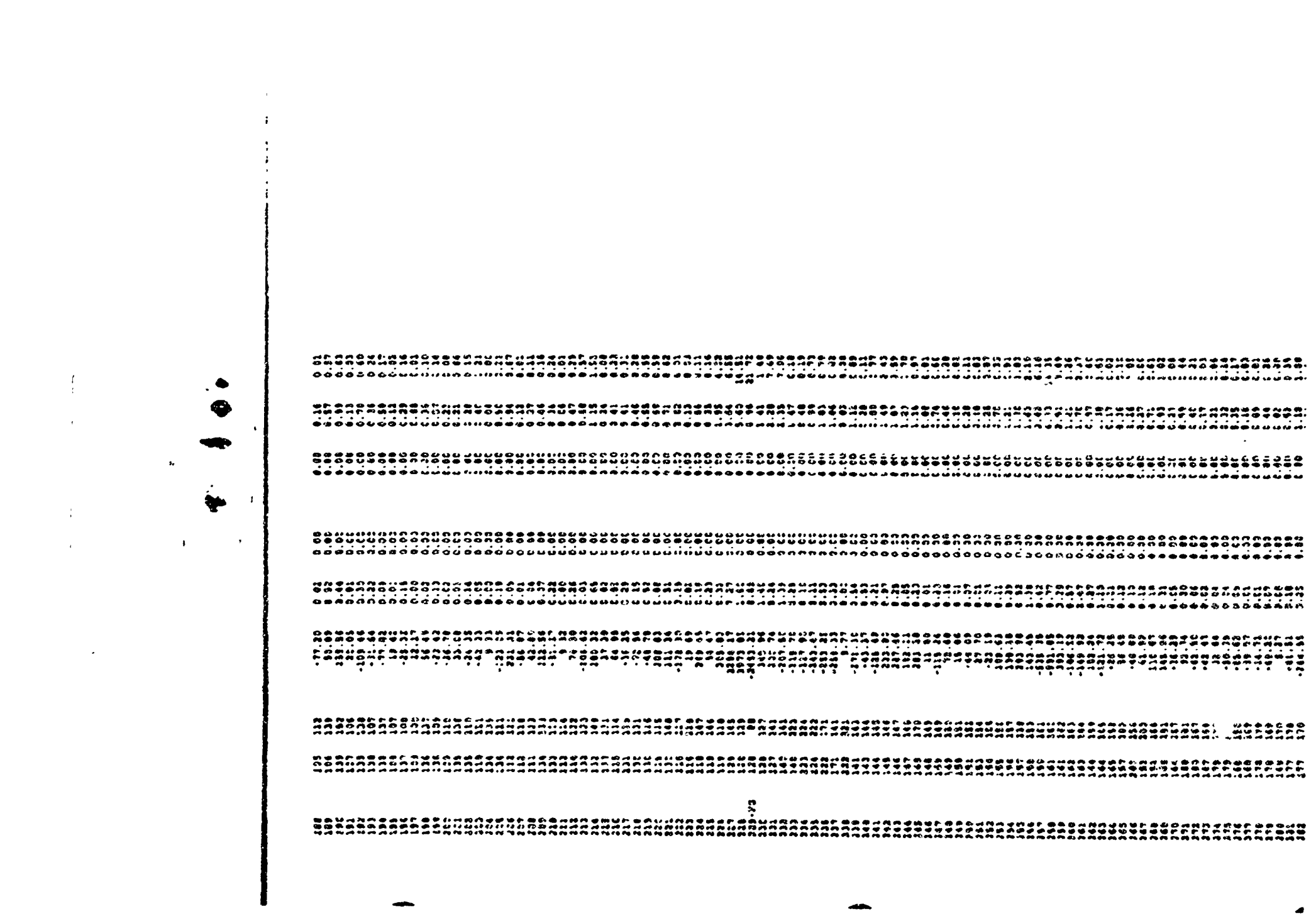
SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 7 TRIALS WITH AN ACCURACY = 0.00001

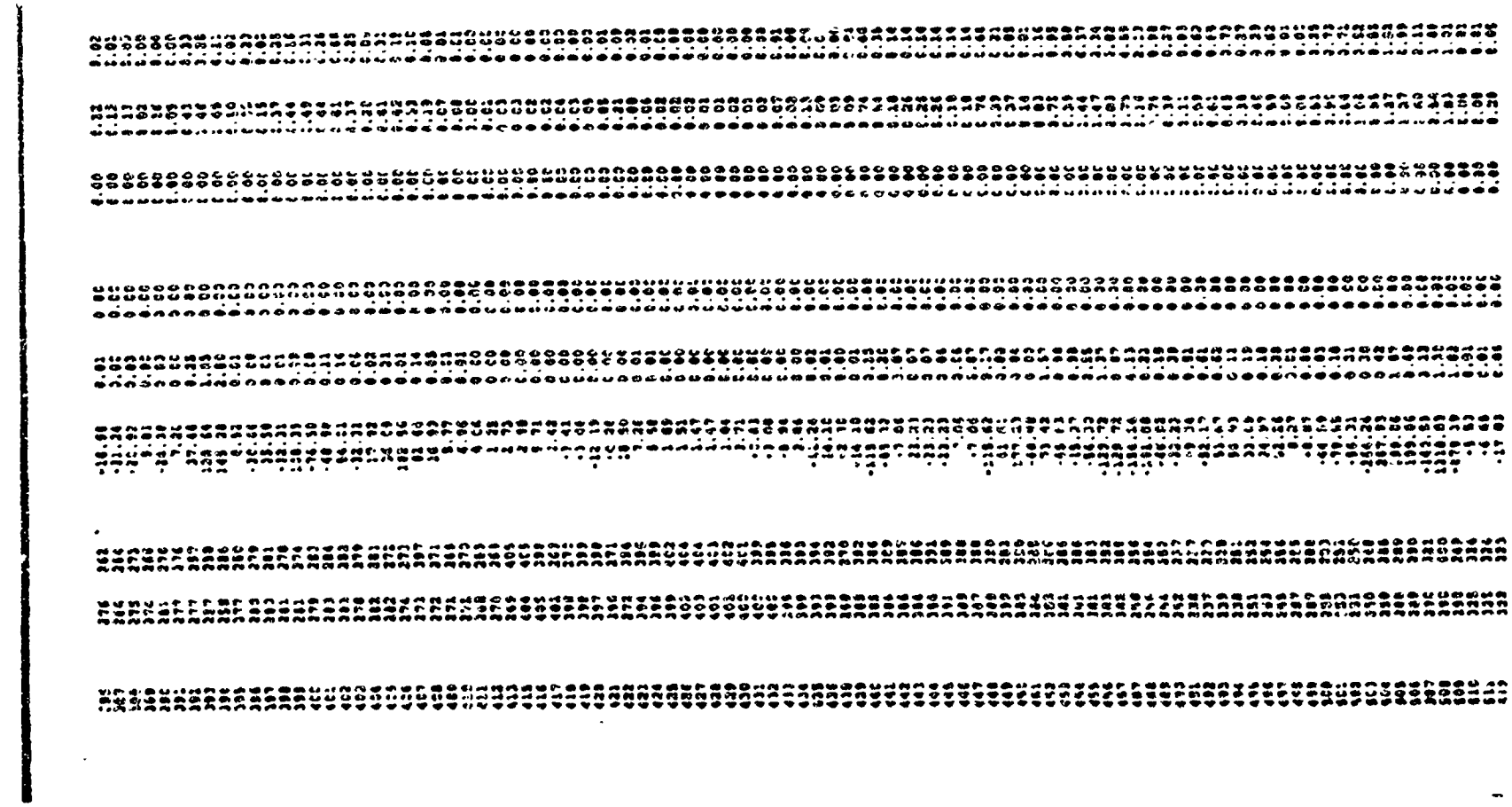
P I P E L I N E R E S U L T S

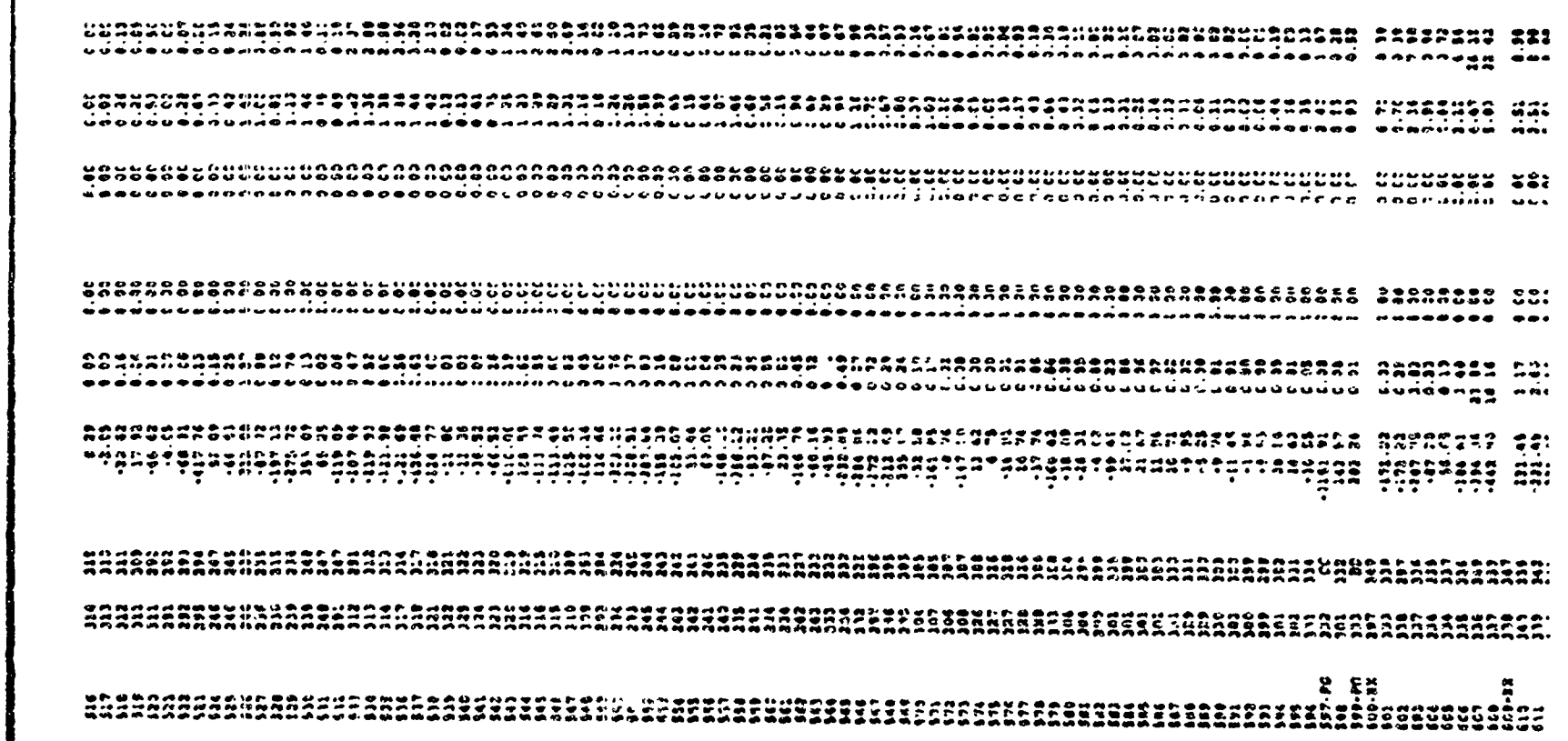
STATUS CODE. XX -CLOSED PIPE FD -FIXED GRADE NODE PU -PUMP LINE
CV -CHECK VALVE RV -REGULATING VALVE SR -RESERVOIR TANK

PIPE NUMBER	NODE #1	NODE #2	FLOWRATE (gpm)	HEAD LOSS (ft)	PUMP HEAD (ft)	PUMP LABEL	MINOR LOSS (ft)	LINK VELO (ft/s)	HL-SLOPE (ft/kft)
1	1	3	10.48	0.02	0.00		0.01	0.12	0.02
2	2	1	27.32	0.20	0.00		0.01	0.32	0.11
3	3	4	81.97	0.76	0.00		0.01	0.93	0.98
4	4	5	-1.36	0.00	0.00		0.01	0.04	0.01
5	5	6	5.23	0.01	0.00		0.01	0.06	0.01
6	6	8	-9.88	0.01	0.00		0.01	0.11	0.02
7	6	7	-27.65	0.03	0.00		0.00	0.31	0.11
8	8	9	69.96	0.19	0.00		0.00	0.79	0.89
9	9	10	81.65	0.16	0.00		0.00	0.93	0.26
10	11	2	19.26	0.03	0.00		0.00	0.22	0.11
11	11	1	11.48	0.01	0.00		0.00	0.13	0.04
12	11	11	0.00	0.00	0.00		0.00	0.00	0.00
13	10	9	11.33	0.02	0.00		0.00	0.13	0.04
14	8	0	245.65	0.72	0.00		0.00	2.63	0.11
15	8	7	37.28	0.16	0.00		0.00	0.42	0.18
16	7	12	0.15	0.01	0.00		0.00	0.00	0.00
17	21	20	-1.90	0.01	0.00		0.00	0.02	0.01
18	19	19	-12.67	0.01	0.00		0.00	0.14	0.02
19	19	7	8.26	0.01	0.00		0.00	0.09	0.01
20	16	15	16.73	0.03	0.00		0.00	0.18	0.15
21	17	25	159.16	0.88	0.00		0.05	0.48	0.32
22	17	16	-159.16	0.87	0.00		0.05	0.65	0.33
23	26	16	-1.79	0.00	0.00		0.00	0.02	0.01
24	16	15	-183.92	0.31	0.00		0.00	1.19	1.65
25	15	14	157.40	0.22	0.00		0.05	1.03	1.17
26	14	9	315.73	0.72	0.00		0.00	1.43	1.18
27	29	15	143.13	0.63	0.00		0.00	0.91	0.35
28	28	14	338.91	0.67	0.00		0.00	0.89	0.95
29	27	28	123.78	0.58	0.00		0.00	0.79	0.72
30	14	13	74.03	0.59	0.00		0.00	0.47	0.29
31	13	10	38.37	0.11	0.00		0.00	0.48	0.30
32	12	11	16.08	0.02	0.00		0.00	0.10	0.07
33	11	12	16.76	0.02	0.00		0.00	0.10	0.07
34	34	32	5.12	0.00	0.00		0.00	0.04	0.01
35	33	34	93.41	0.25	0.00		0.00	0.61	0.44
36	35	33	-38.16	0.02	0.00		0.00	0.24	0.09
37	33	33	-37.75	0.06	0.00		0.00	0.43	0.24
38	32	38	20.20	0.03	0.00		0.00	0.13	0.03
39	29	31	88.33	0.26	0.00		0.00	0.56	0.76
40	31	32	-463.85	0.19	0.00		0.00	1.12	0.61
41	40	39	146.78	0.14	0.00		0.00	1.06	0.28
42	41	44	-2743.44	0.81	0.00		0.00	4.36	4.08
43	41	31	619.14	0.35	0.00		0.00	1.72	1.02
44	30	36	88.38	1.42	0.00		0.00	1.01	1.64
45	36	35	465.53	0.55	0.00		0.00	0.98	1.26
46	35	30	222.57	0.17	0.00		0.00	1.03	1.48
47	34	37	81.49	0.38	0.00		0.00	0.36	1.10
48	33	37	13.37	0.02	0.00		0.00	0.06	0.01
49	30	37	8.57	0.00	0.00		0.00	0.04	0.01
50	32	37	-8.16	0.01	0.00		0.00	0.08	0.01
51	37	42	-30.19	0.02	0.00		0.00	0.16	0.02
52	43	42	48.75	0.06	0.00		0.00	0.21	0.04
53	43	41	-10.74	0.02	0.00		0.00	0.11	0.02
54	43	39	-61.14	0.07	0.00		0.00	0.31	0.19
55	31	33	2133.31	0.27	0.00		0.00	2.42	2.54
56	45	41	36.11	0.01	0.00		0.00	0.22	0.04
57	45	43	-15.43	0.01	0.00		0.00	0.10	0.02
58	42	47	6.79	0.01	0.00		0.00	0.11	0.01
59	39	43	11.78	0.02	0.00		0.00	0.14	0.02
60	44	43	-17.46	0.02	0.00		0.00	0.11	0.02
61	44	45	-33.47	0.04	0.00		0.00	0.21	0.08
62	45	47	-43.49	0.04	0.00		0.00	0.27	0.06
63	46	38	-141.17	0.08	0.00		0.00	1.03	0.67
64	49	38	260.65	0.40	0.00		0.00	1.64	1.83
65	38	37	99.48	0.07	0.00		0.00	0.63	0.27
66	36	37	-97.14	0.08	0.00		0.00	0.61	0.30
67	38	36	-49.70	0.03	0.00		0.00	0.36	0.21
68	46	35	-41.75	0.02	0.00		0.00	0.27	0.08
69	48	30	-133.78	0.18	0.00		0.00	0.85	0.49
70	31	31	1892.16	1.65	0.00		0.00	2.99	2.81
71	48	32	-126.78	0.20	0.00		0.00	0.81	0.43
72	49	49	211.57	1.64	0.00		0.00	1.35	1.11
73	47	49	-36.61	0.05	0.00		0.00	0.19	0.02
74	44	44	0.19	0.00	0.00		0.00	0.01	0.01
75	44	47	-26.48	0.05	0.00		0.00	0.17	0.04
76	44	45	16.31	0.04	0.00		0.00	0.11	0.02
77	45	46	-19.28	0.04	0.00		0.00	0.13	0.02
78	48	48	25.15	0.07	0.00		0.00	0.29	0.11
79	48	48	-45.12	3.39	0.00		0.00	1.16	2.96
80	48	49	138.41	0.39	0.00		0.00	0.89	0.71
81	48	48	-42.47	0.07	0.00		0.00	0.27	0.11
82	64	63	-138.48	0.82	0.00		0.00	1.00	0.36
83	46	66	-0.82	0.00	0.00		0.00	0.00	0.01



167	161	172	235.57	0.99	0.00	0.00	1.31	1.63
168	174	175	-38.76	0.09	0.00	0.00	0.44	0.56
169	173	174	98.42	0.19	0.00	0.00	0.63	0.69
170	172	173	-94.88	0.38	0.00	0.00	0.61	0.25
171	170	171	3.87	0.00	0.00	0.00	0.02	0.03
172	172	226	76.83	0.55	0.00	0.00	0.86	0.97
173	151	167	56.76	0.08	0.00	0.00	0.30	0.19
174	221	219	210.02	0.10	0.00	0.00	0.87	0.58
175	221	220	-206.25	0.23	0.00	0.00	0.56	0.22
176	170	169	131.96	0.41	0.00	0.00	0.86	0.85
177	179	218	46.50	0.46	0.00	0.00	0.73	0.91
178	178	221	345.92	0.39	0.00	0.00	1.39	0.94
179	176	218	838.70	0.34	0.00	0.00	1.10	0.92
180	220	218	-195.92	0.25	0.00	0.00	0.96	0.20
181	220	225	-177.53	0.01	0.00	0.00	0.59	0.17
182	225	226	-248.37	0.30	0.00	0.00	0.76	0.31
183	220	217	-178.63	0.35	0.00	0.00	0.51	0.17
184	227	228	-197.27	0.06	0.00	0.00	0.55	0.23
185	228	229	-137.38	0.03	0.00	0.00	0.39	0.13
186	229	225	-338.04	0.12	0.00	0.00	1.36	0.70
187	227	225	-178.04	0.03	0.00	0.00	0.48	0.16
188	230	218	-333.98	0.05	0.00	0.00	0.95	0.54
189	232	231	161.83	0.01	0.00	0.00	0.46	0.14
190	231	219	-10.01	0.00	0.00	0.00	0.11	0.02
191	218	217	379.02	0.07	0.00	0.00	1.05	1.07
192	219	218	-713.75	0.08	0.00	0.00	1.49	1.04
193	218	221	-275.04	0.01	0.00	0.00	0.62	0.18
194	236	221	-1627.76	0.36	0.00	0.00	3.18	2.02
195	216	169	-366.80	0.21	0.00	0.00	0.76	0.38
196	249	214	-1842.51	3.57	0.00	0.00	3.82	3.19
197	214	217	-361.81	1.01	0.00	0.00	1.38	1.02
198	221	219	178.80	1.01	0.00	0.00	1.11	1.06
199	215	214	-30.41	0.00	0.00	0.00	0.12	0.07
200	216	213	48.74	0.01	0.00	0.00	0.20	0.14
201	213	212	0.00	0.00	0.00	0.00	0.00	0.00
202	212	211	0.00	0.00	0.00	0.00	0.00	0.00
203	181	209	218.70	1.78	0.00	0.00	1.90	2.08
204	216	210	202.66	1.06	0.00	0.00	1.15	0.96
205	212	208	138.06	0.55	0.00	0.00	0.82	0.80
206	212	209	151.49	0.84	0.00	0.00	0.98	1.22
207	209	208	34.59	0.02	0.00	0.00	0.33	0.07
208	208	206	161.05	0.02	0.00	0.00	0.83	1.23
209	209	207	117.01	0.24	0.00	0.00	0.76	0.69
210	207	206	157.17	0.39	0.00	0.00	1.01	1.31
211	206	204	338.62	0.21	0.00	0.00	2.39	4.28
212	207	205	-41.16	0.04	0.00	0.00	0.32	0.14
213	205	204	193.14	0.47	0.00	0.00	1.57	1.87
214	204	207	51.16	1.09	0.00	0.00	1.03	1.74
215	213	208	66.17	0.08	0.00	0.00	0.73	0.92
216	211	212	-32.68	0.01	0.00	0.00	0.20	0.03
217	212	211	-128.91	0.03	0.00	0.00	0.88	1.31
218	212	211	113.13	0.29	0.00	0.00	0.73	0.38
219	211	211	25.33	0.01	0.00	0.00	0.19	0.03
220	211	210	142.07	0.08	0.00	0.00	0.84	0.24
221	211	206	-154.35	0.07	0.00	0.00	1.05	0.49
222	215	199	142.10	0.11	0.00	0.00	0.78	0.26
223	210	183	72.61	0.17	0.00	0.00	0.66	0.35
224	195	198	119.77	0.16	0.00	0.00	0.76	0.39
225	199	195	-1.08	0.00	0.00	0.00	0.02	0.00
226	198	183	34.91	0.11	0.00	0.00	0.48	0.20
227	182	181	44.10	0.22	0.00	0.00	0.93	0.80
228	183	196	43.00	0.16	0.00	0.00	0.49	0.21
229	165	184	121.21	0.37	0.00	0.00	0.77	0.39
230	163	165	95.68	0.25	0.00	0.00	0.61	0.35
231	184	184	246.57	1.13	0.00	0.00	1.98	1.67
232	161	152	-345.86	0.28	0.00	0.00	0.72	0.28
233	144	185	-44.63	0.08	0.00	0.00	0.96	0.20
234	145	186	-46.00	0.03	0.00	0.00	0.20	0.06
235	141	165	42.61	0.19	0.00	0.00	0.68	0.03
236	185	186	18.70	0.00	0.00	0.00	0.10	0.07
237	186	187	-32.21	0.01	0.00	0.00	0.11	0.03
238	188	187	24.73	0.02	0.00	0.00	0.16	0.05
239	187	188	-15.58	0.03	0.00	0.00	0.10	0.01
240	189	189	-48.21	0.04	0.00	0.00	0.26	0.09
241	189	190	-96.05	0.13	0.00	0.00	0.38	0.17
242	191	191	18.06	0.06	0.00	0.00	0.21	0.09
243	191	192	-27.13	0.01	0.00	0.00	0.17	0.02
244	193	193	-172.96	0.15	0.00	0.00	0.98	0.21
245	195	196	-119.69	0.16	0.00	0.00	1.76	1.39
246	196	199	-26.22	0.01	0.00	0.00	1.04	0.05
247	196	191	134.64	0.05	0.00	0.00	1.53	0.54
248	194	193	218.24	0.01	0.00	0.00	1.66	0.08
249	194	190	74.88	0.09	0.00	0.00	0.89	0.29
250	193	196	243.06	0.01	0.00	0.00	0.91	0.09
251	197	196	125.96	0.01	0.00	0.00	1.86	1.83
252	197	203	-463.81	0.39	0.00	0.00	3.74	3.36
253	194	197	-218.24	0.09	0.00	0.00	3.35	0.00
254	196	427	0.00	0.00	0.00	0.00	0.00	0.00
255	217	206	-34.97	0.38	0.00	0.00	0.39	0.35
256	217	197	-93.83	0.01	0.00	0.00	5.26	0.01
257	244	249	-198.59	0.88	0.00	0.00	0.89	0.39
258	248	263	-4656.20	0.25	0.00	0.00	1.07	0.11
259	263	259	-746.11	0.26	0.00	0.00	1.22	0.41
260	258	259	-1313.32	0.37	0.00	0.00	1.62	0.49
261	258	265	267.21	0.14	0.00	0.00	1.52	0.88

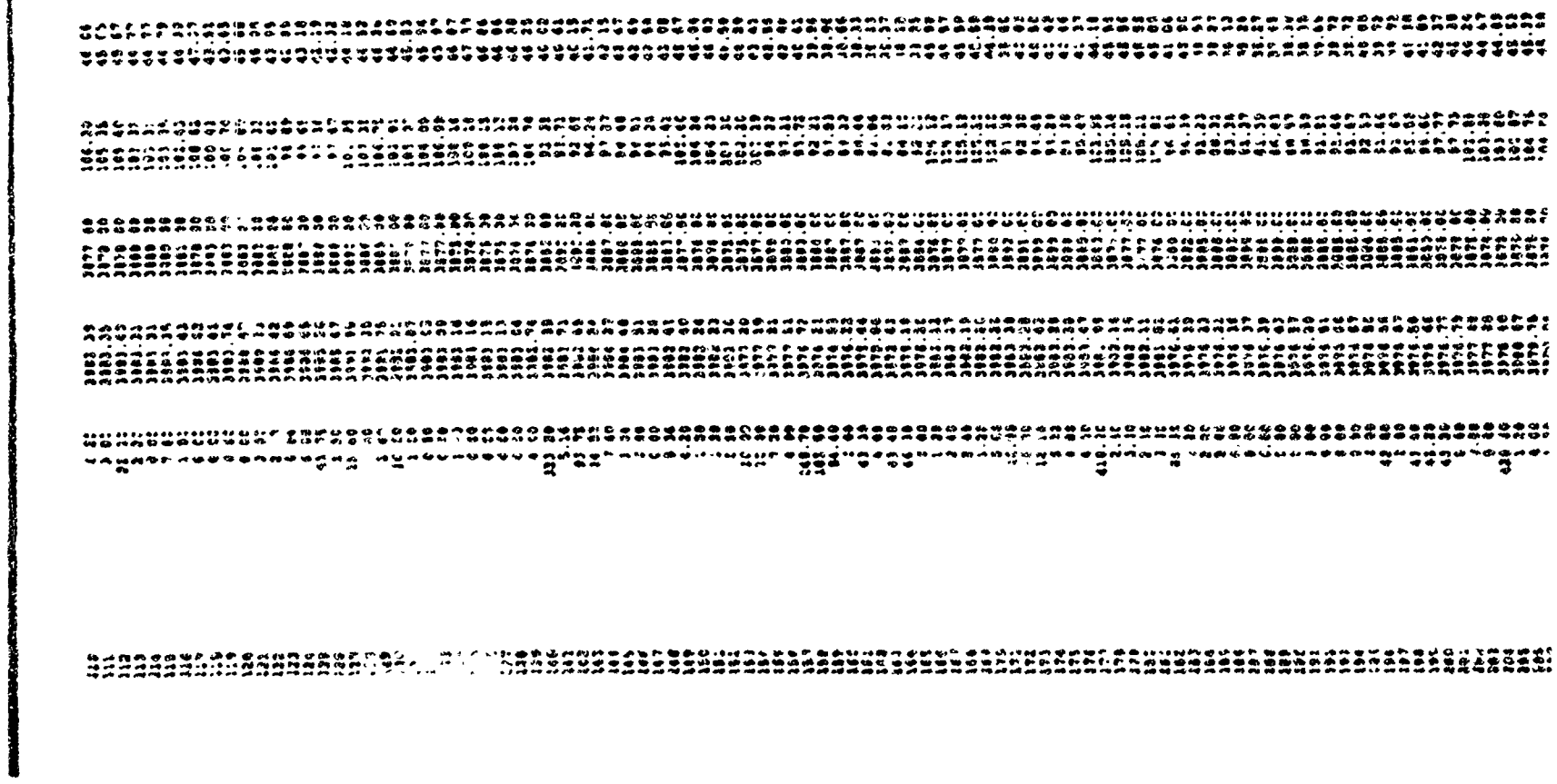


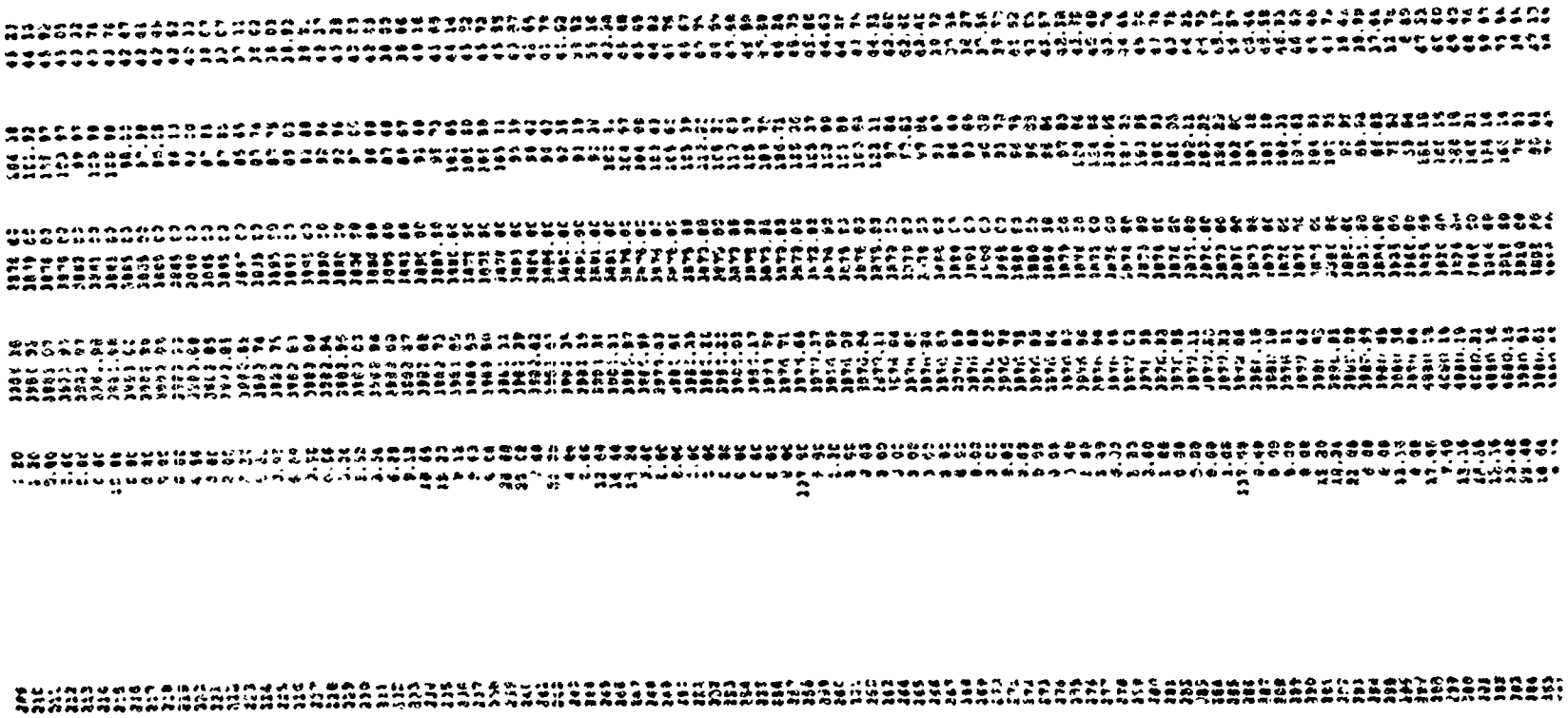


615	343	344	-141.48	1.49	0.00		0.00	1.03	1.00
616-XX	344	345							
617	920	345	1235.48	0.20	0.00		0.39	5.29	18.76
618	345	346	4389.88	33.58	0.00		0.00	0.26	19.39
619	346	346	-148.86	1.55	0.00		0.00	1.93	1.49
620	346	347	57.83	0.00	0.00		0.00	0.37	0.18
621	347	348	-281.42	4.95	0.00		0.00	0.19	24.63
622	347	348	57.83	0.00	0.00		0.00	0.37	0.18
623	348	349	-0.37	0.00	0.00		0.00	0.00	0.00
624	349	350	-455.47	1.97	0.00		0.00	1.06	2.33
625	348	351	-244.62	1.00	0.00		0.00	1.56	2.66
626	351	350	189.36	0.19	0.00		0.00	0.70	0.40
627	351	352	-138.89	0.38	0.00		0.00	0.89	0.93
628	352	353	1454.56	6.73	0.00		0.00	1.30	2.27
629	353	354	98.19	0.29	0.00		0.00	0.63	0.49
630	344	354	-232.67	1.17	0.00		0.00	1.49	1.39
631	354	355	-235.87	0.46	0.00		0.00	1.28	1.70
632	355	356	-201.67	0.76	0.00		0.00	1.29	1.86
633	357	358	-446.65	2.19	0.00		0.00	2.85	8.11
634	352	357	-346.58	0.60	0.00		0.00	1.56	2.67
635	359	360	610.77	1.26	0.00		0.00	1.91	3.00
636	360	351	685.81	3.76	0.00		0.00	1.80	4.99
637	360	361	-866.74	11.87	0.00		0.00	1.78	3.33
638	361	362	-249.34	0.95	0.00		0.00	1.71	3.16
639-XX	361	365							
640	359	362	-688.57	1.86	0.50		0.53	2.01	5.02
641	359	338	-498.86	0.00	0.00		0.00	5.68	22.00
642	338	356	-1286.48	6.87	0.00		0.00	1.38	13.97
643-PG	358	XX	786.62	2.02	0.00		0.00	3.22	4.29
644-PG	361	XX	-935.98	0.38	0.00		0.00	3.90	9.31
645	363	362	955.98	4.88	0.00		0.00	3.91	9.31
646	363	525	0.00	0.00	0.00		0.00	0.00	0.00
647-XV	364	365	159.24	0.00	0.00		0.00	1.45	0.00
648	364	379	-159.24	0.17	0.00		0.00	0.45	0.00
649	365	366	159.24	0.63	0.00		0.00	0.45	0.00
650	366	368	127.22	0.36	0.00		0.00	0.52	0.00
651	366	367	31.96	0.00	0.00		0.00	0.29	0.00
652	367	365	31.78	0.01	0.00		0.00	0.12	0.00
653	363	368	-30.41	0.00	0.00		0.00	0.21	0.00
654	369	370	33.98	0.02	0.00		0.00	0.10	0.00
655	370	371	-31.78	0.00	0.00		0.00	0.13	0.00
656	370	378	33.36	0.01	0.00		0.00	0.18	0.00
657	378	376	-6.41	0.00	0.00		0.00	0.03	0.00
658	378	379	6.72	0.00	0.00		0.00	0.21	0.00
659	377	376	-4.23	0.00	0.00		0.00	0.05	0.00
660	377	373	1.80	0.00	0.00		0.00	0.02	0.00
661	374	376	-18.73	0.00	0.00		0.00	0.13	0.00
662	375	376	86.56	0.00	0.00		0.00	0.11	0.00
663	375	372	-69.85	0.00	0.00		0.00	0.30	0.00
664	374	373	5.46	0.00	0.00		0.00	0.00	0.00
665	373	378	-7.96	0.01	0.00		0.00	0.00	0.00
666	372	371	-78.81	0.03	0.00		0.00	0.32	0.00
667	371	368	-104.95	0.05	0.00		0.00	0.43	0.00
668	379	380	-176.59	0.07	0.00		0.00	0.55	0.00
669-PG	380	GD	-993.96	0.00	0.00		0.00	3.96	0.00
805	628	819	0.00	0.00	0.00		0.00	0.00	0.00
810-PG	61	NN	-1471.00	0.00	0.00		0.00	4.10	0.00
THE PUMP IN LINK 817 IS OPERATING OUT OF RANGE									
817-PC	822	821	1099.65	0.21	97.63	P1	0.00	3.03	3.33
818-XXPU	822	823							
819-PC	822	11	-648.87	0.00	0.00		0.00	0.00	0.00
820-PC	822	JC	-952.08	0.00	0.00		0.00	0.00	0.00
823	133	823	1294.48	0.21	0.00		0.00	2.90	3.00
822-XXPU	823	824							
THE PUMP IN LINK 823 IS OPERATING OUT OF RANGE									
823-PU	823	824	1294.48	0.15	358.14	P4	0.00	2.90	3.00
824-XXPU	825	364							
825-XXPU	825	364							
826-PG	PP	824	0.00	0.00	0.00		0.00	0.00	0.00
827-XXPU	826	819							
828-XXPU	826	819							
829-XXPU	826	819							
830-XXPU	826	819							
631	627	633	0.00	0.00	0.00		0.00	0.00	0.00
840	680	780	-677.81	0.17	0.00		0.00	1.61	0.63
22E-PG	750	AA	-846.00	0.00	0.00		0.00	1.14	0.66
911-XX	333	737							
912	280	293	-150.45	0.02	0.00		0.00	0.82	0.23
913-XX	731	333							
914-PG	731	MM	-142.87	0.00	0.00		0.00	0.00	0.00

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		1.00	3984.58	3903.00	84.58	36.76
2		1.80	3984.88	3902.00	87.88	38.04
3		48.46	3984.63	3911.00	89.63	38.84
4		82.38	3982.94	3903.00	88.94	38.54
5		64.71	3984.94	3897.00	91.94	39.84
6		42.56	3984.71	3901.00	83.93	38.54
7		9.48	3984.56	3897.00	91.96	39.81
8		33.44	3984.13	3889.00	91.13	39.49





308	0.00	3980.36	3909.00	60.36	36.02
309	0.36	3980.36	3897.00	90.50	39.23
310	0.00	3979.83	3887.00	92.83	40.26
311	0.38	3981.60	3903.00	97.60	42.29
312	10.64	3986.43	3875.00	105.67	45.69
313	0.00	3979.82	3876.00	104.82	45.65
314	0.00	3979.32	3876.00	104.32	45.21
315	0.00	3979.33	3886.00	93.33	40.46
316	0.00	3978.77	3886.00	92.77	40.20
317	0.00	3978.76	3874.00	104.76	45.39
318	0.00	3978.15	3874.00	104.15	45.13
319	0.00	3978.15	3886.00	92.15	39.93
320	0.13	3977.88	3885.00	92.88	39.69
321	9.80	3977.76	3878.00	102.76	44.53
322	17.48	3977.76	3878.00	113.76	49.28
323	12.16	3977.86	3886.00	94.86	39.78
324	26.22	3977.76	3886.00	91.76	39.75
325	25.00	3977.73	3875.00	102.73	44.51
326	0.00	3983.36	3910.00	83.36	36.02
327	12.16	3988.36	3918.00	70.36	30.48
328	0.00	3983.37	3919.00	70.37	30.48
329	16.22	4000.13	3918.00	102.13	44.25
330	18.22	4000.13	3918.00	102.13	44.25
331	26.22	4000.15	3948.00	136.15	58.97
332	0.00	3993.82	3965.00	28.82	12.48
333	0.00	3979.91	3968.00	11.91	4.98
334	0.00	4000.20	3950.00	130.20	56.42
335	0.00	4000.04	3946.00	132.04	58.19
336	0.00	4000.04	3950.00	132.04	58.20
337	14.30	4000.01	3952.00	128.01	56.17
338	0.00	3971.98	3960.00	11.98	5.00
339	0.00	4000.16	3970.00	130.16	56.37
340	0.00	4000.03	3970.00	130.03	56.30
341	0.00	4101.94	3950.00	151.94	65.91
342	0.00	4101.77	3950.00	151.77	65.83
343	0.00	4101.73	3950.00	151.73	65.80
344	0.38	4104.19	3950.00	154.19	66.68
345	7.00	4141.00	3950.00	191.00	82.65
346	3.80	4107.70	4500.00	107.70	46.67
347	0.00	4107.67	4000.00	107.67	46.59
348	11.10	4107.63	4397.00	100.63	43.61
349	0.04	4107.63	3990.00	117.63	50.98
350	110.70	4109.60	4323.00	86.59	37.48
351	0.00	4108.31	4022.00	86.31	36.70
352	0.38	4109.69	4023.00	86.69	37.43
353	7.40	4103.97	4078.00	25.97	25.95
354	60.30	4108.07	4026.00	82.07	34.84
355	0.00	4248.35	4025.00	96.35	39.81
356	1.20	4107.99	4043.00	64.99	36.13
357	0.00	4113.00	4032.00	81.00	34.76
358	1.38	4121.99	4082.00	39.99	37.97
359	332.00	4223.26	4060.00	33.26	36.09
360	0.00	4111.30	4035.00	76.30	33.00
361	0.00	4113.12	4043.00	70.12	30.07
362	4.00	4115.00	4024.00	91.00	37.31
363	0.00	4118.92	4209.00	10.00	0.31
364	0.00	4279.16	4129.00	150.16	77.26
365	0.00	4211.00	4100.00	111.00	47.00
366	0.00	4210.17	4133.00	111.17	48.06
367	16.20	4210.37	4129.00	111.37	48.03
368	0.00	4210.33	4112.00	98.33	42.37
369	10.22	4210.06	4117.00	93.06	41.61
370	12.16	4210.04	4130.00	80.04	36.77
371	11.00	4210.21	4128.00	82.21	36.91
372	33.10	4210.21	4130.00	80.21	36.26
373	19.20	4210.21	4159.00	51.21	26.19
374	23.10	4210.21	4155.00	54.21	23.92
375	0.00	4210.21	4130.00	80.21	34.18
376	9.18	4217.21	4120.00	97.21	41.35
377	3.06	4210.21	4140.00	70.21	34.16
378	10.26	4210.33	4140.00	70.33	31.03
379	17.38	4278.36	4102.00	96.36	42.31
380	17.38	4278.50	4103.00	95.00	37.94
381	330.00	3971.00	3870.00	101.00	44.16
382	0.00	3979.00	3870.00	109.00	48.09
383	0.00	3974.63	3871.00	103.63	44.88
384	0.00	3976.00	3873.00	103.00	45.01
385	0.00	3976.07	3875.00	101.07	44.09
386	0.00	3976.01	3874.00	102.01	44.55
387	0.00	3976.00	3870.00	96.00	42.00
388	0.00	3976.06	3877.00	99.06	43.31
389	0.00	3977.92	3875.00	102.92	44.21
390	0.00	3977.10	3874.00	103.10	44.20
391	0.00	3976.95	3873.00	103.95	45.05
392	0.00	3976.00	3880.00	96.00	41.89
393	0.00	3976.00	3868.00	98.00	42.82
394	0.00	3976.72	3868.00	98.72	43.05
395	0.00	3976.00	3868.00	98.00	42.73
396	0.00	3976.00	3868.00	98.00	42.73
397	0.00	3976.00	3867.00	99.00	43.08
398	0.00	3976.00	3869.00	97.00	42.06
399	0.00	3976.00	3869.00	97.00	42.06
400	0.00	3976.00	3869.00	97.00	42.06
401	0.00	3976.00	3894.00	82.00	35.63
402	0.00	3974.00	3894.00	82.00	35.83
403	0.00	3976.00	3896.00	80.00	34.96
404	0.00	3976.00	3898.00	81.00	35.40
405	0.00	3976.00	3898.00	81.00	35.40

636	0.00	3976.67	3892.81	86.87	37.56
519	0.00	3976.67	3892.79	85.87	37.23
32.	0.00	3983.14	3883.61	100.14	43.40
522	0.00	3989.97	3891.03	0.97	3.05
521	0.00	3991.71	3966.13	25.61	11.10
536	0.00	4149.74	3964.13	183.64	79.58
524	0.00	4118.72	4004.03	114.22	4.31
536	0.00	3918.69	3895.73	21.96	12.54
607	1893.56	3976.32	3955.03	2.32	1.24
701	0.00	3975.69	3960.03	14.69	6.36
703	0.00	3992.00	3960.03	24.00	13.42

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)	JUNCTION NUMBER	MINIMUM PRESSURE (psi)
536	79.58	535	1.03
544	77.20	331	4.89
553	91.56	338	5.03
330	91.56	702	6.38
329	71.56	9.	9.19

NE / STOP

PIPE NUMBER	MAXIMUM NE/STOP (ft/ft)	PIPE NUMBER	MINIMUM NE/STOP (ft/ft)
107	55.91	423	0.30
144	66.38	411	0.00
648	31.42	74	5.38
607	26.15	321	0.38
641	13.01	515	0.38

REGULATING VALVE REPORT

R/V LABEL	VALVE TYPE	POSITION MODE	CONTROLLED VALVE PIPE	SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft.	DOWNSTREAM GRADE (ft.	THROUGH FLOW (gpm)
R1	PRV-1	346	647	4211.49	THROTTLED	4218.16	4210.40	559.34

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm)	NODE TITLE
AA	41	3741.85	Tank 5105
BB	239	3533.21	Tank 139
CC	597	1152.92	Tank 7205
DD	599	282.84	Tank 7208
EE	641	-766.62	Tank 7241
FF	644	906.96	Tank 7241
GG	669	194.96	Tank 7175
HH	816	-473.82	Tank 693
II	819	948.57	Tank 1110
JJ	826	950.00	Tank 1119
KK	836	1.40	Tank 1402, 91 0.
LL	915	644.41	Tank 7207A
MM	916	142.57	Tank 7208A

NET SYSTEM INFLOW = 12551.42
NET SYSTEM OUTFLOW = -988.86
NET SYSTEM DEMAND = 10572.57

CHANGES FOR NEXT SIMULATION

COMMAND CHANGES

DEMAND TYPE = 1 , BDF = 1.00

PIPE PARAMETER CHANGES

STATUS CODE: EX -CLOSED PIPE FC -FIXED GRADE NODE HP -HIGH LINE
CV -CHECK VALVE PR -REGULATING VALVE

PIPE NUMBER	NODE NOS 01	02	LENGTH (ft.	DIAMETER (in.	ROUGHNESS COEFF	MINOR LOSS COEFF	PIPE-NOT (ft.
631-XEPU	536	535	100.0	30.0	120.00	0.00	0.0

THE PUMP IDENTIFYING NUMBER (ID = 7

[illegible]	230	919	100.0	20	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 8							
[illegible]	926	923	100.0	20.0	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 9							
[illegible]	924	919	100.0	20.0	125.00	1.00	1.00
THE PUMP IDENTIFYING NUMBER (ID) = 10							
[illegible]	924	921	98.0	16.0	101.00	1.00	1.00
THE PUMP IDENTIFYING NUMBER (ID) = 1							
[illegible]	923	921	98.0	16.0	101.00	1.00	1.00
THE PUMP IDENTIFYING NUMBER (ID) = 2							
[illegible]	922	924	98.0	26.0	121.00	3.01	3.00
THE PUMP IDENTIFYING NUMBER (ID) = 3							
[illegible]	921	924	98.0	26.0	125.00	3.01	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 4							
[illegible]	921	964	98.0	33.0	131.00	3.02	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 5							
[illegible]	929	964	98.0	33.0	131.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 6							
[illegible]	921	931	100.0	36.0	122.00	3.00	0.00

****
SIMULATION RESULTS
****

THE RESULTS ARE OBTAINED AFTER 4 TRIALS WITH AN ACCURACY = 0.00153

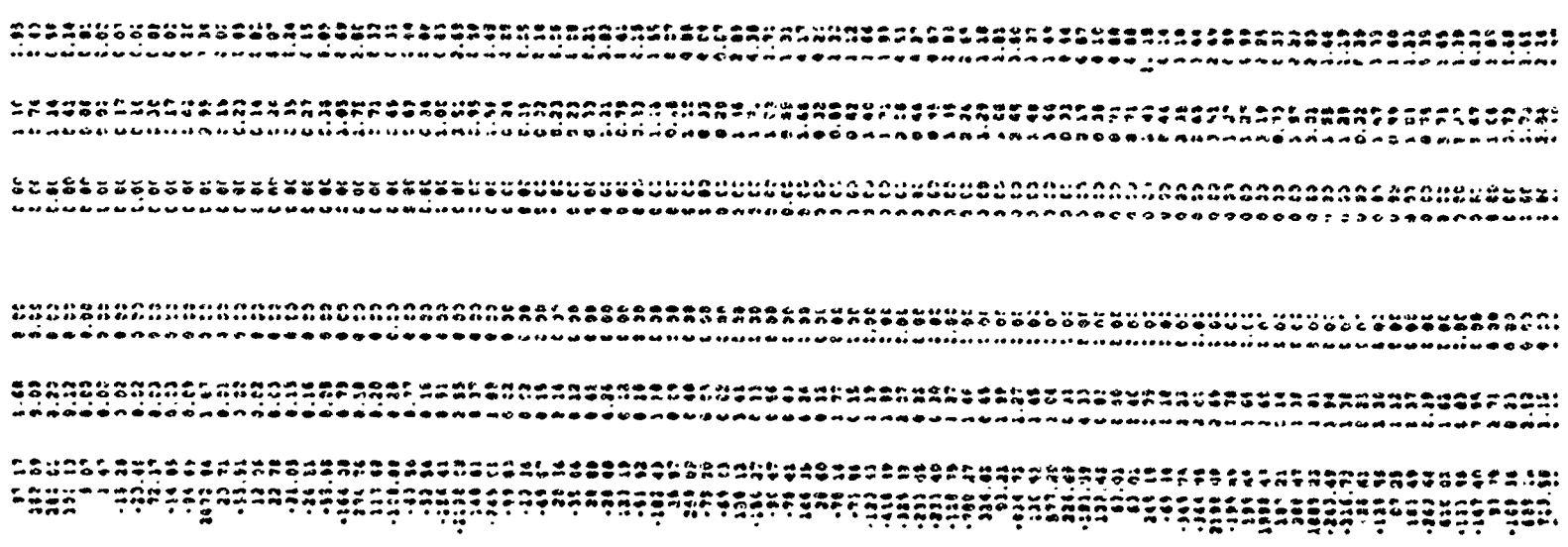
SIMULATION DESCRIPTION LABEL

Hours of 10:00 on 15 J 84 30

PIPELINE RESULTS

STATUS CODE. XH -CLOSED PIPE FH -FIXED GRADE NODE PU -PUMP LINK
CV -CHECK VALVE RV -REGULATING VALVE TR -STORAGE TANK

PIPE ACTIVITY	NODE N1	NODE N2	FLOWRATE (GPM	HEAD LOSS (FT)	PUMP HEAD (FT)	PUMP LABEL	MINOR LOSS (FT)	LINE VELO (FT/S.	RL/ 1:35 (FT/FT)
1	1	2	10.48	0.03	0.00		0.01	0.13	0.00
2	2	3	20.46	0.01	0.00		0.00	0.13	0.00
3	3	4	88.09	0.05	0.00		0.00	1.00	0.00
4	4	5	-1.60	0.01	0.00		0.00	0.04	0.00
5	4	6	9.91	0.03	0.00		0.01	0.11	0.00
6	6	6	-15.69	0.05	0.00		0.01	0.18	0.00
7	6	7	17.26	0.01	0.00		0.01	0.19	0.00
8	6	1	76.21	0.21	0.00		0.01	0.84	0.00
9	9	3	88.03	0.10	0.00		0.01	0.98	0.00
10	10	1	19.88	0.02	0.00		0.01	0.23	0.00
11	11	1	11.68	0.01	0.00		0.01	0.13	0.00
12	10	11	1.44	0.00	0.00		0.01	0.02	0.00
13	10	9	10.42	0.06	0.00		0.01	0.12	0.00
14	9	8	183.31	0.02	0.00		0.01	0.76	0.00
15	8	7	41.86	0.03	0.00		0.01	0.46	0.00
16	7	10	18.25	0.03	0.00		0.01	0.20	0.00
17	11	12	-10.11	0.06	0.00		0.01	0.22	0.00
18	10	12	-10.28	0.05	0.00		0.01	0.22	0.00
19	12	7	-2.07	0.00	0.00		0.00	0.02	0.00
20	24	13	18.93	0.06	0.00		0.01	0.21	0.00
21	17	14	115.22	0.10	0.00		0.01	0.76	0.00
22	17	16	-119.22	0.09	0.00		0.01	0.79	0.00
23	16	14	-84.93	0.39	0.00		0.01	0.56	0.00
24	16	15	-266.94	1.87	0.00		0.03	1.81	0.01
25	15	14	170.24	0.13	0.00		0.00	1.09	0.00
26	14	9	216.15	0.01	0.00		0.00	1.01	0.00
27	27	25	174.98	0.13	0.00		0.01	1.66	0.01
28	26	24	150.24	0.10	0.00		0.01	0.98	0.00
29	27	26	131.24	0.10	0.00		0.01	0.84	0.00
30	24	23	61.19	0.06	0.00		0.01	0.59	0.00
31	23	20	37.26	0.11	0.00		0.01	0.49	0.00
32	23	21	14.54	0.02	0.00		0.00	0.18	0.00
33	21	22	10.42	0.00	0.00		0.00	0.11	0.00
34	24	23	-6.97	0.00	0.00		0.00	0.01	0.00
35	23	24	60.15	0.06	0.00		0.00	0.08	0.00
36	23	23	-81.73	0.23	0.00		0.01	0.29	0.00
37	22	22	-61.41	0.11	0.00		0.01	0.47	0.00

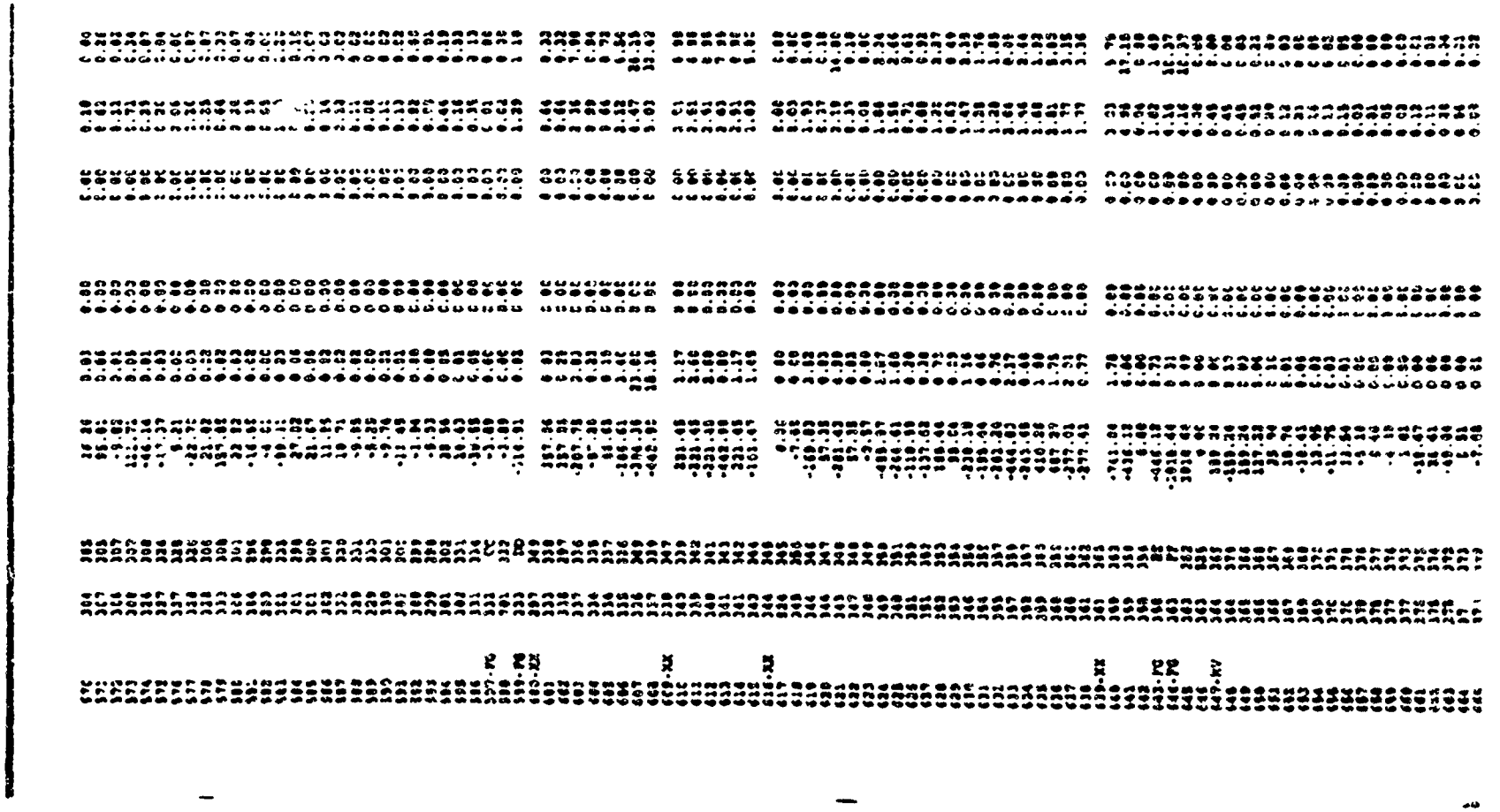


143	117	83	-179.85	1.81	0.00	0.00	2.03	1.29	
144	117	81	-40.26	0.83	0.00	0.00	0.46	0.26	
145	81	81	107.58	1.69	0.00	0.00	1.22	0.36	
146	81	72	-165.17	1.41	0.00	0.00	0.97	0.80	
147	81	82	217.48	1.96	0.00	0.00	1.47	0.66	
148	115	82	-339.92	1.36	0.00	0.00	1.39	1.36	
149	43	83	101.16	0.43	0.00	0.00	0.33	0.94	
150	108	83	-96.09	1.00	0.00	0.00	1.09	1.04	
151	84	82	-12.77	0.00	0.00	0.00	0.08	0.01	
152	84	85	-81.76	0.00	0.00	0.00	0.95	0.21	
153	81	86	56.17	0.00	0.00	0.00	0.35	0.09	
154	107	84	-85.95	0.00	0.00	0.00	1.09	1.06	
155	106	85	-96.25	0.00	0.00	0.00	1.09	1.06	
156	102	86	-176.69	1.61	0.00	0.00	1.14	0.81	
157	86	88	-164.82	1.31	0.00	0.00	1.86	0.71	
158	87	88	376.62	3.19	0.00	0.00	2.60	3.22	
159	87	114	1512.80	13.0.	0.00	0.00	2.61	3.36	
160	80	89	208.46	0.53	0.00	0.00	1.30	1.09	
161	89	88	-.38	0.01	0.00	0.00	0.84	0.19	
162	103	88	-269.27	1.21	0.00	0.00	1.72	1.73	
163	89	91	246.99	0.21	0.00	0.00	2.80	0.90	
164	90	91	366.84	3.05	0.00	0.00	3.31	3.63	
165	87	169	665.45	3.67	0.00	0.00	1.39	6.61	
166	91	95	865.72	6.86	0.00	0.00	3.62	8.99	
167	98	22	944.47	34.01	0.00	0.00	8.75	65.82	
168	93	92	771.87	48.37	0.00	0.00	8.76	49.27	
169	93	94	-237.51	6.76	0.00	0.00	2.38	8.46	
170	93	163	-495.39	8.12	0.00	0.00	8.62	21.91	
171	94	159	-744.26	8.12	0.00	0.00	4.75	21.37	
172	94	95	646.56	5.32	0.00	0.00	1.85	6.41	
173	96	155	91.83	0.38	0.00	0.00	0.82	0.19	
174	95	98	-488.97	3.03	0.00	0.00	3.18	3.21	
175	97	157	229.11	1.11	0.00	0.00	1.69	1.28	
176	97	96	-914.25	8.67	0.00	0.00	8.82	16.66	
177	98	101	-1238.68	4.46	0.00	0.00	3.60	3.35	
178	98	99	328.24	0.86	0.00	0.00	3.08	2.47	
179	102	94	-52.32	0.47	0.00	0.00	0.95	0.36	
180	98	154	47.36	0.32	0.00	0.00	0.99	0.47	
181	95	103	142.36	0.31	0.00	0.00	0.36	0.84	
182	154	155	146.68	0.31	0.00	0.00	0.93	0.84	
183	100	102	-16.51	0.08	0.00	0.00	0.41	0.17	
184	101	102	-43.72	0.09	0.00	0.00	0.37	0.09	
185	114	101	93.43	0.17	0.00	0.00	0.94	0.22	
186	103	106	-1499.61	0.85	0.00	0.00	2.99	2.99	
187	105	104	-43.46	0.00	0.00	0.00	0.31	0.00	
188	104	112	149.88	0.11	0.00	0.00	0.39	0.00	
189	106	159	93.97	0.81	0.00	0.00	0.73	0.94	
190	109	158	193.84	0.00	0.00	0.00	1.84	0.94	
191	107	108	46.62	0.00	0.00	0.00	0.00	0.07	
192	109	108	-133.56	0.00	0.00	0.00	0.85	0.07	
193	108	107	-42.35	0.00	0.00	0.00	0.48	0.43	
194	108	107	-91.25	0.12	0.00	0.00	0.88	0.22	
195	108	107	5.57	0.00	0.00	0.00	0.83	0.09	
196	107	108	-34.58	0.00	0.00	0.00	0.35	0.09	
197	109	108	-43.22	0.00	0.00	0.00	0.88	0.06	
198	106	107	66.69	0.00	0.00	0.00	0.39	0.14	
199	106	105	-32.51	0.00	0.00	0.00	0.37	0.06	
200	109	110	-30.79	0.00	0.00	0.00	0.33	0.03	
201	108	106	28.36	0.00	0.00	0.00	0.18	0.03	
202	108	110	-12.59	0.00	0.00	0.00	0.37	0.06	
203	110	111	-94.36	0.00	0.00	0.00	0.35	0.16	
204	106	105	-3.83	0.00	0.00	0.00	0.01	0.00	
205	106	111	-152.26	0.00	0.00	0.00	0.61	0.17	
206	112	111	272.69	0.00	0.00	0.00	1.13	0.93	
207	112	110	339.32	0.00	0.00	0.00	0.88	1.08	
208	111	113	48.94	0.00	0.00	0.00	0.86	0.28	
209	114	111	153.89	0.00	0.00	0.00	0.63	0.31	
210	111	111	-.37	0.00	0.00	0.00	0.63	0.36	
211	113	114	39.13	0.00	0.00	0.00	0.15	0.02	
212	114	133	88.78	0.00	0.00	0.00	0.87	0.42	
213	132	131	-131.63	0.00	0.00	0.00	0.69	0.00	
214	132	149	238.58	0.00	0.00	0.00	1.44	0.00	
215	133	131	52.22	0.00	0.00	0.00	0.33	0.00	
216	118	114	48.48	0.00	0.00	0.00	0.36	0.00	
217	151	115	-62.46	0.00	0.00	0.00	0.48	0.00	
218	149	131	-.93	0.00	0.00	0.00	0.00	0.00	
219	150	116	-67.84	0.00	0.00	0.00	0.66	0.00	
220	116	115	119.48	0.00	0.00	0.00	0.91	0.00	
221	130	148	141.51	0.00	0.00	0.00	0.96	0.00	
222	116	117	-2.13	0.00	0.00	0.00	2.40	0.00	
223	116	119	45.79	0.00	0.00	0.00	0.78	0.00	
224	119	147	232.63	0.00	0.00	0.00	1.36	0.00	
225	119	146	161.36	0.00	0.00	0.00	1.61	0.00	
226	118	118	228.16	0.00	0.00	0.00	0.85	0.00	
227	120	145	1548.91	10.00	0.00	0.00	4.37	0.00	
228	120	124	3320.02	2.03	0.00	0.00	6.48	0.00	
229-73	120	88	-2611.23	8.85	0.00	0.00	8.67	28.00	
230	120	137	394.61	1.81	0.00	0.00	1.43	0.00	
231	137	141	238.66	11.37	0.00	0.00	2.92	0.00	
232	141	141	-238.66	1.82	0.00	0.00	2.89	0.00	
233	141	123	-99.99	0.21	0.00	0.00	0.28	0.00	
234	123	124	-46.79	0.17	0.00	0.00	0.60	0.00	
235	124	125	-145.01	0.66	0.00	0.00	0.51	0.00	

262	145	146	241.98	1.83	0.05	0.00	1.54	1.54
263	146	147	341.81	5.35	0.05	0.01	4.18	4.94
264	147	148	176.24	2.72	0.03	0.01	1.36	1.45
265	148	170	333.03	9.26	0.03	0.01	1.22	1.24
266	148	149	-14.34	0.21	0.03	0.01	0.06	0.07
267	165	149	-132.46	0.26	0.03	0.01	0.05	0.04
268	149	150	97.91	0.18	0.03	0.01	0.05	0.05
269	150	151	5.91	0.03	0.03	0.01	0.02	0.02
270	151	152	-61.19	0.15	0.03	0.01	0.05	0.06
271	153	154	27.72	0.11	0.03	0.01	0.10	0.03
272	154	155	-92.61	0.06	0.03	0.01	0.07	0.06
273	155	156	46.25	0.13	0.03	0.01	0.04	0.05
274	156	157	189.61	0.35	0.03	0.01	0.01	0.09
275	157	158	203.04	0.51	0.03	0.01	0.07	0.01
276	158	159	144.25	1.39	0.03	0.01	0.04	0.21
277	159	161	-536.59	0.62	0.03	0.01	0.41	0.15
278	161	162	-890.33	0.97	0.00	0.01	0.12	10.29
279	161	163	283.94	2.38	0.00	0.01	0.41	0.48
280	162	163	-186.33	0.57	0.00	0.01	0.21	0.36
281	163	164	-169.73	0.46	0.00	0.01	0.20	0.37
282	164	299	190.26	0.86	0.00	0.01	0.26	0.59
283	166	165	-183.52	1.11	0.00	0.01	0.19	1.07
284	167	259	-28.13	0.05	0.00	0.01	0.22	0.04
285	157	183	64.98	0.18	0.00	0.01	0.01	0.13
286	205	334	-85.83	0.15	0.00	0.01	0.12	0.08
287	153	333	49.35	0.17	0.00	0.01	0.22	0.09
288	152	166	228.79	0.25	0.00	0.01	0.83	0.82
289	166	181	353.36	0.33	0.00	0.01	0.99	1.31
290	264	167	-233.99	0.61	0.00	0.01	0.15	0.24
291	181	181	96.61	0.28	0.00	0.01	0.19	0.42
292	182	182	-69.19	0.07	0.00	0.01	0.61	0.16
293	167	168	-23.92	0.01	0.00	0.01	0.23	0.11
294	179	180	25.87	0.07	0.01	0.01	0.10	0.06
295	178	168	-67.29	0.01	0.00	0.01	0.36	0.10
296	169	150	-69.05	0.07	0.00	0.01	0.44	0.26
297	268	269	-14.51	0.00	0.00	0.00	0.04	0.06
298	178	179	-28.17	0.03	0.00	0.00	0.10	0.06
299	179	169	-83.46	0.09	0.00	0.00	0.31	0.36
300	169	170	26.48	0.01	0.00	0.00	0.15	0.02
301	199	198	-196.20	0.32	0.00	0.00	0.48	0.57
302	197	170	-339.93	0.38	0.00	0.00	1.47	1.31
303	177	213	48.54	0.02	0.00	0.00	1.20	0.00
304	149	176	1210.64	1.66	0.00	0.00	2.98	2.72
305	175	176	-6.53	0.03	0.00	0.00	0.07	0.01
306	175	164	-58.83	0.01	0.00	0.00	0.52	0.02
307	163	173	267.29	1.23	0.00	0.00	1.66	0.93
308	174	175	-19.79	0.02	0.00	0.00	0.11	0.09
309	173	174	166.51	0.16	0.00	0.00	2.98	0.00
310	172	173	-181.13	0.68	0.00	0.00	1.65	0.28
311	172	171	-0.58	0.00	0.00	0.00	0.05	0.00
312	172	336	83.97	0.02	0.00	0.00	1.07	0.00
313	141	167	69.46	0.08	0.00	0.00	0.66	0.06
314	341	338	183.20	0.24	0.00	0.00	0.52	0.22
315	331	331	41.20	0.01	0.00	0.00	0.33	0.01
316	178	329	157.48	0.16	0.00	0.00	1.01	0.18
317	175	328	76.29	0.00	0.00	0.00	0.04	0.00
318	176	326	418.29	0.38	0.00	0.00	1.71	0.34
319	176	219	971.21	0.66	0.00	0.00	1.41	0.20
320	220	219	246.51	0.08	0.00	0.00	0.72	0.21
321	326	325	-30.42	0.00	0.00	0.00	0.11	0.01
322	321	324	-69.42	0.01	0.00	0.00	0.11	0.03
323	325	327	-1.71	0.00	0.00	0.00	0.01	0.01
324	327	328	76.73	0.01	0.00	0.00	0.21	0.03
325	326	329	166.57	0.03	0.00	0.00	0.43	0.18
326	329	327	-72.33	0.01	0.00	0.00	0.05	0.06
327	329	330	178.77	0.04	0.00	0.00	0.51	0.17
328	330	218	22.26	0.00	0.00	0.00	0.05	0.00
329	330	331	156.00	0.01	0.00	0.00	0.44	0.11
330	331	217	19.91	0.01	0.00	0.00	0.05	0.00
331	216	217	192.71	0.02	0.00	0.00	0.73	0.07
332	218	219	-178.46	0.01	0.00	0.00	0.56	0.09
333	219	221	847.27	0.06	0.00	0.00	1.69	0.05
334	216	221	-847.27	0.08	0.00	0.00	1.77	0.05
335	216	167	-768.23	0.01	0.00	0.00	1.61	0.05
336	269	216	-1615.60	0.15	0.00	0.00	0.10	0.07
337	214	217	-911.61	0.08	0.00	0.00	0.98	0.07
338	221	215	116.06	0.01	0.00	0.00	0.73	0.05
339	215	214	-7.81	0.00	0.00	0.00	0.03	0.00
340	214	213	-47.04	0.01	0.00	0.00	0.10	0.04
341	213	212	0.00	0.00	0.00	0.00	0.00	0.00
342	212	211	0.00	0.00	0.00	0.00	0.00	0.00
343	181	325	219.97	1.85	0.00	0.00	1.13	0.17
344	214	216	871.55	0.08	0.00	0.00	1.11	0.08
345	215	338	135.09	0.01	0.00	0.00	0.70	0.05
346	215	339	147.25	0.00	0.00	0.00	0.94	0.04
347	209	208	34.78	0.01	0.00	0.00	0.13	0.00
348	208	205	156.69	0.00	0.00	0.00	1.05	0.14
349	209	207	111.36	0.01	0.00	0.00	0.71	0.02
350	207	206	166.98	0.00	0.00	0.00	1.07	0.01
351	206	204	133.04	0.01	0.00	0.00	0.66	0.06
352	207	205	-96.76	0.00	0.00	0.00	0.56	0.00
353	205	204	102.03	0.01	0.00	0.00	0.16	0.04
354	204	203	84.22	0.00	0.00	0.00	0.96	0.03
355	203	202	60.48	0.00	0.00	0.00	0.75	0.02

341	201	204	-155.42	0.06	1.00	0.00	0.99	0.63
342	202	199	170.96	0.11	1.00	0.01	0.72	0.35
343	203	182	94.16	0.13	1.00	0.00	0.41	0.12
344	355	198	114.97	0.15	1.00	0.00	0.73	0.36
345	199	195	3.39	0.00	0.00	0.00	0.04	0.00
346	198	183	86.20	0.09	0.00	0.00	0.44	0.14
347	183	183	60.66	0.21	0.00	0.00	0.73	0.30
348	183	194	46.36	0.17	0.00	0.00	0.50	0.25
349	235	184	118.72	0.26	0.00	0.00	0.76	0.38
350	183	165	87.60	0.17	0.00	0.00	0.56	0.32
351	194	164	263.81	1.11	0.00	0.00	1.86	1.44
352	162	192	-326.88	0.26	0.00	0.00	0.66	0.16
353	184	185	-82.85	0.08	0.00	0.00	0.51	0.28
354	181	186	-42.64	0.06	0.00	0.00	0.37	0.26
355	191	185	42.22	0.19	0.00	0.00	0.48	0.42
356	189	186	16.37	0.05	0.00	0.00	0.17	0.16
357	186	187	-21.27	0.01	0.00	0.00	0.06	0.03
358	188	187	26.64	0.02	0.00	0.00	0.16	0.02
359	187	188	-16.83	0.02	0.00	0.00	0.09	0.01
360	188	189	-38.27	0.06	0.00	0.00	0.38	0.09
361	189	190	-94.84	0.13	0.00	0.00	0.38	0.17
362	190	191	17.19	0.06	0.00	0.00	0.06	0.00
363	191	192	-28.83	0.01	0.00	0.00	0.18	0.01
364	192	193	-382.91	0.13	0.00	0.00	1.74	0.19
365	195	196	-119.33	0.15	0.00	0.00	0.76	0.36
366	196	195	-18.79	0.00	0.00	0.00	0.00	0.00
367	286	193	146.42	0.08	0.00	0.00	0.35	0.01
368	194	193	298.49	0.31	0.00	0.00	0.43	0.07
369	194	195	71.83	0.09	0.00	0.00	0.46	0.17
370	197	196	217.61	0.01	0.00	0.00	0.50	0.08
371	867	194	117.30	0.00	0.00	0.00	0.34	0.08
372	197	214	+446.89	0.17	0.00	0.00	0.71	0.15
373	194	197	+288.69	0.00	0.00	0.00	0.33	0.04
374	194	429	0.38	0.00	0.00	0.00	0.00	0.00
375	867	216	-33.00	0.17	0.00	0.00	0.37	0.16
376	211	197	-66.28	0.02	0.00	0.00	0.10	0.01
377	864	868	-187.98	0.01	0.00	0.00	0.79	0.28
378	868	863	-434.84	0.28	0.00	0.00	1.61	0.29
379	863	219	-722.17	1.23	0.00	0.00	1.18	0.37
380	859	869	-889.76	1.07	0.00	0.00	1.83	0.42
381	869	868	837.68	0.13	0.00	0.00	0.55	0.08
382	877	868	-86.84	0.04	0.00	0.00	0.27	0.09
383	861	861	7.28	0.01	0.00	0.00	0.08	0.02
384	873	861	11.61	0.03	0.00	0.00	0.13	0.04
385	861	862	16.85	0.03	0.00	0.00	0.22	0.09
386	876	868	-10.69	0.01	0.00	0.00	0.12	0.02
387	868	864	-38.93	0.00	0.00	0.00	0.13	0.01
388	875	873	-18.46	0.02	0.00	0.00	0.12	0.03
389	876	866	3.27	0.01	0.00	0.00	0.01	0.00
390	881	876	-22.57	0.02	0.00	0.00	0.16	0.03
391	877	876	9.62	0.05	0.00	0.00	0.06	0.00
392	899	887	41.33	0.21	0.00	0.00	0.67	0.40
393	887	888	128.65	1.01	0.00	0.00	1.43	1.14
394	890	886	148.13	0.79	0.00	0.00	1.65	1.01
395	877	888	7.88	0.01	0.00	0.00	0.09	0.02
396	885	879	-29.35	0.08	0.00	0.00	0.33	0.21
397	887	885	23.89	0.01	0.00	0.00	0.16	0.02
398	881	878	-30.78	0.11	0.00	0.00	0.35	0.21
399	881	876	103.72	0.85	0.00	0.00	0.48	0.16
400	879	883	-72.88	0.08	0.00	0.00	0.47	0.28
401	883	886	-66.88	0.11	0.00	0.00	0.42	0.23
402	883	885	82.61	0.14	0.00	0.00	0.58	0.40
403	878	879	-30.78	0.08	0.00	0.00	0.32	0.23
404	882	882	16.88	0.03	0.00	0.00	0.10	0.08
405	883	878	38.68	0.19	0.00	0.00	0.39	0.28
406	876	873	88.45	0.31	0.00	0.00	0.46	0.14
407	873	897	79.15	0.13	0.00	0.00	0.32	0.09
408	872	871	16.16	0.28	0.00	0.00	0.10	0.07
409	871	868	9.32	0.01	0.00	0.00	0.08	0.01
410	871	875	6.44	0.01	0.00	0.00	0.07	0.01
411	868	869	-0.48	0.00	0.00	0.00	0.01	0.00
412	875	868	1.28	0.00	0.00	0.00	0.01	0.00
413	869	868	0.79	0.00	0.00	0.00	0.01	0.00
414	404	405	0.96	0.00	0.00	0.00	0.02	0.00
415	406	398	1.78	0.00	0.00	0.00	0.01	0.00
416	402	869	+0.32	0.00	0.00	0.00	0.00	0.00
417	868	870	+3.95	0.00	0.00	0.00	0.03	0.00
418	886	899	+3.45	0.00	0.00	0.00	0.03	0.00
419	897	898	+7.15	0.00	0.00	0.00	0.03	0.00
420	896	872	+4.38	0.00	0.00	0.00	0.03	0.00
421	872	894	17.48	0.04	0.00	0.00	0.10	0.00
422	894	166	6.68	0.01	0.00	0.00	0.07	0.01
423	896	899	4.54	0.00	0.00	0.00	0.06	0.01
424	899	402	1.13	0.00	0.00	0.00	0.01	0.00
425	402	406	0.66	0.00	0.00	0.00	0.01	0.00
426	403	404	0.38	0.00	0.00	0.00	0.00	0.00
427	401	405	0.30	0.00	0.00	0.00	0.00	0.00
428	401	402	-0.49	0.00	0.00	0.00	0.01	0.00
429	460	401	-1.00	0.00	0.00	0.00	0.01	0.00
430	438	399		0.00	0.00	0.00	0.00	0.00
431	400	396		0.01	0.00	0.00	0.00	0.00
432	396	394		0.00	0.00	0.00	0.01	0.00
433	394	393		0.00	0.00	0.00	0.00	0.00
434	393	394		0.00	0.00	0.00	0.00	0.00

442	386	387	-6.85	0.86	0.03	0.00	0.13	0.13
443	384	388	22.95	0.86	0.09	0.01	0.36	0.13
444	389	391	-22.55	0.87	0.09	0.01	0.36	0.13
445	391	389	-22.95	0.86	0.09	0.01	0.36	0.13
446	389	389	0.05	0.86	0.00	0.00	0.37	0.13
447	387	388	-6.85	0.87	0.00	0.00	0.37	0.13
448	389	391	-112.23	0.86	0.00	0.00	0.72	0.13
449	390	389	88.45	0.87	0.00	0.00	0.37	0.13
450	385	390	175.75	0.86	0.00	0.00	0.36	0.13
451	389	385	-65.85	0.88	0.00	0.00	0.36	0.13
452	387	386	72.85	0.87	0.00	0.00	0.01	0.13
453	381	386	-65.60	0.88	0.00	0.00	0.01	0.13
454	381	384	-11.35	0.88	0.00	0.00	0.38	0.13
455	381	383	-65.34	0.88	0.00	0.00	0.36	0.13
456	383	382	-139.87	0.87	0.00	0.00	0.37	0.13
457	382	385	-135.87	0.87	0.00	0.00	0.01	0.13
458	386	384	-156.97	0.87	0.00	0.00	0.01	0.13
459	384	384	-162.76	0.86	0.00	0.00	0.01	0.13
460	384	382	-66.96	0.87	0.00	0.00	0.36	0.13
461	382	382	-32.08	0.88	0.00	0.00	0.36	0.13
462	380	382	-7.36	0.88	0.00	0.00	0.38	0.13
463	382	379	-40.81	0.88	0.00	0.00	0.38	0.13
464	379	380	53.15	0.88	0.00	0.00	0.37	0.13
465	380	381	81.19	0.88	0.00	0.00	0.00	0.13
466	381	381	33.99	0.88	0.00	0.00	0.39	0.13
467	383	384	14.66	0.88	0.00	0.00	0.42	0.13
468	385	386	94.23	0.87	0.00	0.00	0.01	0.13
469	387	389	16.31	0.88	0.00	0.00	0.38	0.13
470	387	386	-16.01	0.88	0.00	0.00	0.11	0.13
471	385	383	38.63	0.88	0.00	0.00	0.40	0.13
472	383	381	-75.31	0.87	0.00	0.00	0.85	0.13
473	381	380	-86.13	0.87	0.00	0.00	0.40	0.13
474	380	378	-289.37	0.87	0.00	0.00	1.08	0.13
475	380	380	130.36	0.88	0.00	0.00	0.00	0.13
476	380	380	183.77	0.88	0.00	0.00	0.37	0.13
477	380	380	-183.77	0.88	0.00	0.00	1.08	0.13
478	380	382	-139.88	0.87	0.00	0.00	0.00	0.13
479	380	600	899.38	0.84	0.00	0.00	3.04	0.13
480	380	380	-655.83	1.00	0.00	0.00	1.37	0.13
481	385	384	-8.36	0.88	0.00	0.00	0.00	0.13
482	385	384	-6.48	0.88	0.00	0.00	0.01	0.13
483	385	383	-17.53	0.88	0.00	0.00	0.38	0.13
484	383	382	-33.96	0.88	0.00	0.00	0.39	0.13
485	382	382	-1.56	0.88	0.00	0.00	0.02	0.13
486	382	381	-8.31	0.88	0.00	0.00	0.00	0.13
487	381	381	-1.02	0.88	0.00	0.00	0.01	0.13
488	381	381	-0.00	0.88	0.00	0.00	0.38	0.13
489	381	381	-31.08	0.88	0.00	0.00	0.38	0.13
490	381	380	-8.07	0.88	0.00	0.00	0.00	0.13
491	381	382	-17.80	0.88	0.00	0.00	0.43	0.13
492	381	382	-126.33	0.87	0.00	0.00	0.02	0.13
493	382	382	-388.46	0.87	0.00	0.00	0.73	0.13
494	384	386	329.79	0.86	0.00	0.00	0.37	0.13
495	384	387	71.93	0.88	0.00	0.00	0.46	0.13
496	386	385	-66.37	0.88	0.00	0.00	0.00	0.13
497	385	389	347.78	0.85	0.00	0.00	0.00	0.13
498	389	388	-42.93	0.88	0.00	0.00	0.72	0.13
499	386	385	-331.48	0.84	0.00	0.00	0.46	0.13
500	385	386	-169.49	0.88	0.00	0.00	0.00	0.13
501	386	388	188.64	0.86	0.00	0.00	0.76	0.13
502	388	387	-96.61	0.88	0.00	0.00	0.38	0.13
503	387	387	32.96	0.88	0.00	0.00	0.00	0.13
504	387	393	-66.17	0.87	0.00	0.00	1.00	0.13
505	393	392	-119.41	0.86	0.00	0.00	1.36	0.13
506	392	393	-110.26	0.86	0.00	0.00	1.34	0.13
507	393	394	-125.22	0.86	0.00	0.00	1.36	0.13
508	394	393	-122.43	0.86	0.00	0.00	1.43	0.13
509	393	392	-133.27	0.86	0.00	0.00	1.40	0.13
510	392	392	-31.67	0.88	0.00	0.00	0.01	0.13
511	392	392	-21.93	0.88	0.00	0.00	0.01	0.13
512	392	392	-36.18	0.88	0.00	0.00	0.41	0.13
513	392	389	-65.85	0.86	0.00	0.00	0.78	0.13
514	389	389	-128.82	0.86	0.00	0.00	1.36	0.13
515	389	389	-169.36	0.85	0.00	0.00	1.22	0.13
516	389	388	-132.88	0.86	0.00	0.00	1.38	0.13
517	388	388	-124.61	0.86	0.00	0.00	1.38	0.13
518	388	389	-133.38	0.86	0.00	0.00	1.40	0.13
519	389	389	-128.02	0.86	0.00	0.00	1.40	0.13
520	389	390	-382.38	0.82	0.00	0.00	1.91	0.13
521	390	389	-91.66	0.88	0.00	0.00	0.37	0.13
522	389	389	-11.88	0.88	0.00	0.00	0.05	0.13
523	389	389	-126.82	0.86	0.00	0.00	0.45	0.13
524	389	389	-18.33	0.88	0.00	0.00	0.00	0.13
525	389	389	4.58	0.88	0.00	0.00	0.01	0.13
526	389	389	60.51	0.88	0.00	0.00	0.15	0.13
527	389	389	78.99	0.88	0.00	0.00	0.38	0.13
528	389	389	-93.81	0.88	0.00	0.00	0.00	0.13
529	389	389	-172.68	0.86	0.00	0.00	0.71	0.13
530	389	389	-26.66	0.87	0.00	0.00	0.10	0.13
531	389	389	-3.39	0.88	0.00	0.00	0.00	0.13
532	389	389	-16.41	0.88	0.00	0.00	0.03	0.13
533	389	389	-77.81	0.88	0.00	0.00	0.03	0.13
534	389	389	-36.75	0.88	0.00	0.00	0.28	0.13
535	389	389	-75.30	0.88	0.00	0.00	0.00	0.13
536	389	389	-99.33	0.88	0.00	0.00	0.00	0.13



669-PG	389	60	-193.94	0 10	0 00		0 00	0.85	0 12
805	430	819	2.00	0 00	0 00		0 00	0 00	0 00
816-PG	61	IN	-1713 74	0 78	0.00		0 00	0 00	13 14
817-XXPU	822	821							
818-XXPU	822	821							
819-PG	822	11	336 11	0 00	0 00		0 00	0 14	0 01
820-PG	822	JJ	-336 11	0 00	0 00		0 01	0 14	0 01
821	333	823	0 00	0 00	0 00		0 00	0 00	0 00
822-XXPU	811	824							
823-XXPU	811	824							
824-XXPU	838	364							
825-XXPU	825	344							
826-PG	KK	826	0.00	0.00	0 00		0 00	0.00	0 00
827-XXPU	826	819							
828-XXPU	826	819							
829-XXPU	826	819							
830-XXPU	826	819							
831	827	828	0.00	0.00	0 00		0 00	0 00	0 00
900	899	900	-9168 29	0 57	0.00		0 00	1 91	1.11
910-PG	909	LL	-9168 29	0 00	0.00		0 00	1.91	1.00
911-RR	332	900							
912-RR	900	333							
913-RR	901	333							
914-PG	901	MM	0.00	0 00	0 00		0 00	0 00	0.00

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		0.00	3989.45	3925 00	64.45	28 09
2		0.00	3983.47	3922 00	67.03	29.09
3		30 00	3939.2.	3910 00	69.22	30.04
4		60.00	3988.37	3919 00	69.37	30.09
5		34 72	3988.37	3897 00	91.37	39.58
6		42 66	3988.34	3920 00	68.34	29 26
7		0 00	3988.3[illegible]	3897.00	91 38	39 59
8		32 00	3988.48	3898 00	90 48	39 25
9		0 00	3988 42	3896.00	92 42	39 91
10		4.28	3988.44	3928 00	89.46	38 99
11		4.00	3988.46	3927 00	88.46	38 33
12		3.00	3988 48	3917 00	88 48	38 76
13		3.00	3988 47	3930 00	89.47	38 81
14		2.00	3988 32	3898 00	90 32	39 06
15		0.00	3988.34	3898 00	90.38	39 04
16		0.00	3988 38	3895 00	93 38	40 40
17		0.00	3988 78	3895 00	93 78	40 66
18		12 92	3988 33	3897 00	91 33	39 56
19		0 00	3988.36	3897 00	91 36	39 59
20		7 00	3988.37	3895 00	93 37	40 42
21		0.22	3988 37	3895 00	93 37	40 42
22		15 86	3988 36	3891 00	98 36	43.20
23		11.00	3988 38	3895 00	93.38	40 43
24		21 30	3988 47	3889 00	99 47	43.07
25		22.10	3988.63	3895 00	93 63	40 96
26		0 00	3988.69	3894 00	94 69	41 01
27		0.00	3988 28	3888 00	100 28	43 47
28		0 00	3988.33	3898 00	90 33	39 00
29		0.00	3988.37	3893.00	95 37	41 19
30		0 00	3988 95	3893 00	95 95	41 27
31		0 00	3988 96	3890 00	100 96	43 78
32		0.00	3988 31	3891 00	97.31	42.17
33		3 00	3989 94	3897.00	92 94	40 23
34		0 00	3989 68	3895 00	94 68	40.81
35		0 00	3988 71	3890.00	98.71	38 44
36		0 00	3988.65	3890.00	98.65	42 73
37		1.00	3988.65	3891 00	97.65	42 33
38		0 00	3989.11	3891 00	98 11	42.53
39		0.00	3989.39	3890.00	98 39	42.31
40		84.00	3988 32	3891 00	97.32	42.30
41		205.00	3988.31	3894 00	94 31	40.87
42		4.40	3988.25	3893.00	95 25	41.71
43		3 00	3987 31	3891 00	97.22	42 19
44		21 20	3988 60	3889 00	99.00	43.03
45		227 04	3988.23	3891.00	97.23	42 14
46		11.40	3988 06	3887.00	101.06	43.79
47		10.16	3988.21	3889 00	99 21	42 99
48		22.90	3989.67	3887 00	102 67	44 49
49		4.23	3989.58	3887 00	102 58	44.44
50		20 00	3987 66	3887.00	100 66	43.62
51		0 00	3988 76	3889.00	99 76	43 22
52		7 00	3988 97	3887.00	101.97	43 78
53		0 00	3989.38	3888 00	101 38	44 04
54		0 00	3988 98	3888 00	100.98	43.35
55		26.00	3988.51	3888 00	100 51	43.51
56		25.25	3988 38	3888 00	100.38	43.51
57		0.00	3989.98	3885 00	104 98	45.48
58		1.00	3988.88	3888 00	100 88	44.07
59		7.00	3988.68	3888 00	100 68	43 98
60		26 10	3988.90	3888 00	100 90	43 99
61		48.30	3988.62	3888 00	100 62	43 96
62		3 00	3988.67	3888 00	100 67	43 91
63		87.70	3989 97	3888 00	101.98	43.39

67	12.16	3987.99	3885.00	102.99	44.63
68	10.00	3988.29	3883.00	103.29	44.62
69	4.00	3987.64	3880.00	107.64	44.64
70	5.00	3985.04	3878.00	107.04	44.56
71	0.00	3982.26	3884.00	98.26	42.62
72	5.00	3982.21	3884.00	97.22	42.13
73	365.00	3984.81	3888.00	96.82	41.13
74	5.00	3985.41	3887.00	98.41	42.00
75	2.00	3984.65	3882.00	99.69	43.18
76	2.40	3974.80	3881.00	93.80	43.29
77	13.36	3985.98	3882.98	103.99	43.76
78	0.48	3988.07	3880.00	108.07	46.03
79	5.48	3987.78	3879.00	108.78	47.10
80	3.00	3986.52	3879.00	107.52	47.03
81	2.00	3988.03	3878.00	107.03	46.38
82	1.00	3981.47	3876.00	105.47	45.71
83	84.48	3981.64	3876.00	105.64	45.82
84	3.48	3981.04	3880.00	101.04	43.78
85	6.48	3981.09	3881.00	100.09	43.37
86	42.36	3981.04	3882.00	99.04	42.92
87	9.00	3981.35	3882.00	99.35	43.09
88	9.00	3981.16	3882.00	99.16	42.99
89	1.80	3980.89	3883.00	97.89	42.39
90	1.00	3980.86	3883.00	97.86	42.41
91	43.89	3972.62	3880.00	92.62	39.97
92	1346.34	3918.27	3897.00	13.27	5.75
93	21.12	3983.69	3905.00	78.69	34.01
94	0.00	3966.40	3890.00	76.40	33.11
95	419.00	3965.07	3890.00	75.07	32.53
96	43.92	3973.16	3886.00	87.16	37.77
97	21.72	3976.83	3883.00	93.83	39.66
98	0.00	3978.18	3883.00	95.18	38.95
99	4.00	3974.32	3882.00	92.33	40.01
100	0.00	3974.13	3881.00	93.13	40.35
1	0.00	3974.03	3878.00	96.03	41.61
102	0.00	3976.86	3880.00	96.86	41.98
103	0.00	3978.63	3880.00	98.63	42.57
104	5.48	3980.43	3881.00	99.43	43.05
105	42.20	3980.43	3881.00	99.43	42.89
106	46.00	3980.20	3882.00	98.20	42.55
107	46.20	3980.20	3882.00	98.20	42.55
108	43.20	3980.20	3878.00	102.20	44.29
109	1.20	3980.20	3877.00	103.20	44.72
110	1.20	3980.20	3877.00	103.20	44.72
111	5.20	3980.26	3878.00	102.26	44.31
112	21.10	3980.32	3876.00	104.32	45.24
113	2.20	3980.19	3880.00	100.19	43.49
114	6.00	3980.19	3880.00	100.19	43.48
115	9.60	3980.18	3880.00	100.18	43.48
116	1.00	3980.26	3881.00	99.26	43.04
117	6.00	3980.72	3878.00	102.72	44.24
118	9.00	3980.16	3880.00	100.16	43.11
119	2.40	3980.65	3880.00	100.65	43.27
120	0.00	3980.67	3880.00	100.67	43.36
121	2.00	3980.86	3880.00	100.86	43.41
122	3.40	3980.20	3881.00	99.20	43.06
123	4.84	3980.20	3881.00	99.20	43.10
124	8.00	3980.09	3881.00	99.09	43.05
125	93.78	3980.02	3880.00	100.02	43.38
126	1.20	3980.25	3880.00	100.25	43.39
127	111.60	3980.34	3880.00	100.34	43.43
128	2.40	3980.18	3880.00	100.18	43.41
129	2.40	3980.06	3880.00	100.06	43.36
130	10.00	3979.85	3880.00	99.85	43.34
131	1.00	3979.90	3878.00	101.90	44.11
132	5.40	3979.78	3877.00	102.78	44.64
133	5.00	3979.83	3877.00	102.83	44.86
134	2.20	3979.97	3878.00	101.97	44.09
135	8.40	3979.97	3878.00	101.97	44.12
136	8.00	3979.96	3876.00	103.96	45.00
137	4.00	3979.93	3879.00	100.93	43.67
138	5.00	3979.62	3876.00	103.62	44.99
139	5.00	3979.38	3876.00	103.38	44.88
140	322.20	3979.36	3902.00	77.36	33.25
141	1.10	3979.98	3892.00	87.98	38.05
142	83.78	3980.32	3892.00	88.32	38.14
143	14.52	3980.74	3890.00	90.74	39.19
144	9.60	3980.74	3887.00	93.74	40.63
145	3.04	3980.86	3886.00	94.86	41.11
146	5.00	3979.83	3886.00	93.83	40.69
147	5.00	3979.49	3885.00	94.49	40.94
148	0.36	3979.78	3883.00	96.78	41.90
149	4.80	3979.77	3877.00	102.77	44.18
150	1.20	3979.88	3876.00	103.88	44.68
151	1.20	3979.88	3876.00	103.88	44.68
152	8.00	3979.72	3875.00	104.72	44.95
153	10.00	3979.66	3895.00	84.66	42.04
154	10.00	3979.88	3877.00	102.88	44.57
155	9.20	3979.81	3878.00	101.81	44.13
156	4.00	3979.81	3881.00	98.81	42.45
157	140.70	3979.43	3883.00	96.43	41.19
158	165.96	3979.81	3884.00	95.81	40.93
159	86.46	3979.81	3880.00	99.81	42.62
160	0.00	3979.69	3881.00	98.69	42.23
161	43.50	3979.13	3880.00	99.13	42.69
162	0.00	3980.76	3881.00	99.76	42.89
163	0.00	3980.11	3881.00	99.11	42.54

166	1.35	3978 48	3876.00	103 68	44.41
167	3 41	3978 50	3877 00	101.50	43 99
168	3 41	3978 51	3877 00	101.81	43 99
169	3 35	3978 51	3877 00	101.51	43 99
170	3 00	3978 52	3880 00	98 52	42.68
171	13 00	3979 46	3892 00	91.44	37.97
172	15 55	3979.45	3891 00	88.65	36.33
173	12.18	3979.44	3890 00	89.96	38 82
174	5.35	3979 32	3890 00	89.33	38 61
175	3 86	3979.22	3890 00	89.12	38 66
176	4.45	3979 23	3888 00	91 35	39.63
177	419 25	3979 12	3888 00	94 12	40.52
178	3 40	3978 42	3877 00	121.42	47 98
179	3 00	3978 40	3877 00	121.46	47.96
180	3.40	3978 41	3877 00	121.43	47 95
181	3 00	3978.13	3876 00	124.15	46.26
182	44 00	3971 27	3886 00	91 27	40.42
183	1.35	3971 25	3882 00	91.65	39 44
184	3 00	3972 00	3885.00	87.00	36.00
185	3 00	3972 01	3888 00	84 06	34.02
186	4 00	3971.01	3893 00	80.01	34.01
187	0 00	3971 02	3897 00	76.02	33.01
188	0.00	3971 04	3901 00	72 04	33.02
189	0 00	3972 08	3900 00	83.08	36.01
190	0.00	3971.21	3900 00	85.23	36.02
191	3 00	3971.18	3899 00	85 19	36.00
192	0 00	3971.16	3901 00	84 16	36.23
193	0.00	3971 29	3900 00	85 29	36.26
194	0 00	3971.30	3905 00	80 30	36.26
195	0 00	3971.14	3906 00	85 14	36.53
196	42 00	3971.39	3905 00	84 28	36.58
197	0 00	3971.38	3901 00	84 36	36 26
198	41 00	3971 38	3902 00	85 35	36 93
199	42 30	3971 38	3902 00	84 36	46 41
200	42.30	3971 49	3878 00	94 40	46.81
201	0.00	3971.42	3876 00	96 42	46 82
202	3.00	3971 70	3876 00	96 75	46.77
203	0.00	3971.69	3876 00	96 69	43 28
204	430 00	3974.00	3872 00	99.00	43 39
205	1 30	3974 35	3878 00	101 36	43.81
206	2 00	3975 02	3878 00	101 02	43.77
207	1 30	3975 30	3876 00	101 30	43.47
208	1.30	3974 50	3873 00	101 46	44 03
209	1.30	3974 61	3876.00	101 41	43.69
210	5 30	3977 11	3879 00	98 11	42 92
211	7 00	3978.11	3878 00	101 11	44.28
212	00	3978.11	3878 00	101.11	43.28
213	0.00	3978.11	3882 00	96 11	41.68
214	0.00	3978.10	3881 00	97.10	41.66
215	25 00	3978 10	3881 00	97.10	43 98
216	0.00	3978 47	3878.00	93 47	42 91
217	1 00	3978 54	3876 00	93 56	42 97
218	0 00	3979 04	3885 00	93 08	42.84
219	0.00	3978 57	3885 00	93 56	42 94
220	0.00	3978.01	3883 00	94 05	38.41
221	0.00	3978.66	3885 00	91 66	38 38
222	0.00	3978.67	3886 00	91 67	38 26
223	2.30	3978 08	3887 00	91 04	38 36
224	0.00	3978 01	3886 00	91.02	38.36
225	0.00	3978.62	3886 00	91.62	38.24
226	0.00	3978.64	3891 00	85.64	39 83
227	2.00	3978.00	3891 00	87.04	39.99
228	0.00	3978 62	3889 00	88 63	39.46
229	2.00	3978.60	3893 00	88 61	38 59
230	1.00	3978.36	3886 00	89 34	40.11
231	2.00	3978.04	3890 00	85 04	40 10
232	0.00	3978.01	3895 00	83 01	39 83
233	0 00	3979 01	3893.00	86.26	39 99
234	16.00	3978 04	3896 00	88 04	38 19
235	18 00	3978 24	3887 00	91 24	38 67
236	0.00	3978 04	3900 00	84 06	42.49
237	0.00	3979.33	3898 00	135.33	44 30
238	0.00	3979.33	3895 00	135.33	44 32
239	28.00	3979.97	3876.00	104.99	44.26
240	28.00	3978.45	3891 00	86 45	44.38
241	7.00	3978.27	3886 00	88 47	42.26
242	31.28	3978.05	3886.00	92 05	44.88
243	0.00	3979 38	3888 00	88.38	38.28
244	0.00	3978.55	3891 00	87 55	39.00
245	12.00	3978 02	3891 00	87 03	39.88
246	14.00	3978.62	3891 00	87.0.	40.05
247	18 00	3977 74	3896 00	101.74	40.98
248	1.00	3977.93	3876 00	121.71	44 00
249	0 00	3978.01	3876 00	98 01	43.33
250	0 00	3977 36	3876.00	122.35	46 16
251	0.00	3977.54	3872 00	122.16	46.26
252	0.00	3978 04	3872 00	126.95	46.36
253	0.00	3978 37	3876 00	121.37	46.19
254	0 00	3978 77	3873 00	118.79	46.87
255	0 00	3978.00	3878 00	101.00	44 00
256	0 00	3978.83	3879 00	100 83	44 37
257	0.00	3978.37	3878 00	100 37	44 98
258	137 00	3978.56	3872 00	126 56	46 31
259	6 00	3978.04	3879 00	100 04	44.10
260	1 30	3977.60	3876.00	99.60	43 24
261	2 30	3977.60	3878.00	99.60	43 73
262	0 00	3977 97	3876.00	97.97	42 28

365	0.00	3973.40	3879.00	94.40	40.96
366	0.00	3973.46	3879.00	94.46	40.99
367	0.00	3973.30	3879.00	94.30	40.96
368	0.00	3973.32	3879.00	94.32	40.97
369	0.00	3973.32	3879.00	94.32	40.97
370	0.00	3973.32	3879.00	94.32	40.97
371	0.00	3973.32	3879.00	94.32	40.97
372	0.00	3973.37	3880.00	93.37	40.46
373	0.00	3973.46	3880.00	93.46	40.50
374	0.00	3973.46	3880.00	93.46	40.50
375	0.00	3973.43	3879.00	94.43	40.98
376	1.00	3973.57	3876.00	97.57	42.28
377	7.00	3973.57	3872.00	101.57	44.01
378	0.00	3973.56	3876.00	97.56	42.27
379	1.00	3973.63	3876.00	97.63	42.30
380	3.00	3973.56	3872.00	101.56	43.97
381	1.00	3973.56	3876.00	97.56	42.27
382	0.00	3973.56	3876.00	97.56	42.27
383	0.00	3973.71	3878.00	95.71	42.77
384	0.00	3973.81	3879.00	94.81	43.25
385	1.00	3973.00	3873.00	100.00	43.69
386	237.00	3969.47	3878.00	89.47	43.10
387	0.00	3974.56	3873.00	101.56	43.99
388	0.00	3976.97	3878.00	101.97	44.19
389	0.00	3978.56	3878.00	105.56	45.68
390	0.00	3974.96	3878.00	104.76	45.40
391	10.00	3977.96	3878.00	101.76	44.09
392	10.00	3979.06	3880.00	97.06	42.04
393	21.00	3978.41	3860.00	98.41	38.31
394	2.00	3978.43	3881.00	97.43	37.89
395	0.00	3976.48	3884.00	90.48	36.01
396	12.16	3978.35	3900.00	73.35	31.89
397	0.00	3979.30	3900.00	79.30	8.32
398	27.00	4079.30	3826.00	184.30	66.06
399	7.00	4079.30	3830.00	159.30	49.95
400	21.16	4079.30	3836.00	185.30	49.63
401	12.16	4079.36	3840.00	139.36	48.19
402	23.16	4093.32	3964.00	129.32	80.44
403	13.00	4079.29	3816.00	164.29	72.19
404	21.00	3978.57	3918.00	60.57	35.71
405	11.04	3978.56	3895.00	83.56	46.20
406	9.22	3978.60	3910.00	68.60	29.73
407	0.00	3970.31	3588.00	78.31	46.06
408	0.00	3978.66	3902.00	76.66	30.26
409	0.04	3993.73	3895.00	98.73	35.32
410	0.00	3979.03	3887.00	92.03	39.01
411	0.00	3979.03	3903.00	96.73	41.88
412	38.03	3993.42	3875.00	108.42	44.38
413	0.00	3978.59	3915.00	101.99	44.12
414	0.00	3978.62	3879.00	101.62	43.98
415	0.00	3978.61	3886.00	92.61	39.70
416	0.00	3978.03	3886.00	89.03	38.50
417	0.00	3978.03	3894.00	94.73	41.88
418	0.00	3978.37	3884.00	94.37	40.84
419	0.00	3978.37	3884.00	94.37	40.84
420	0.00	3978.59	3878.00	100.59	43.38
421	7.00	3978.59	3878.00	100.59	43.38
422	17.00	3974.07	3876.00	98.07	42.28
423	12.16	3973.93	3884.00	89.93	38.90
424	24.33	3978.56	3884.00	94.56	40.91
425	19.00	3974.07	3875.00	99.07	42.85
426	4.00	3978.68	3904.00	74.68	34.09
427	15.16	3978.62	3918.00	60.62	22.70
428	0.00	3978.67	3918.00	60.62	25.70
429	19.00	4079.28	3918.00	160.28	71.19
430	19.00	4079.28	3918.00	160.28	71.19
431	24.33	4079.1.	3948.00	130.31	88.22
432	0.00	3978.00	3960.00	17.00	11.95
433	0.00	3978.68	3968.00	10.68	4.97
434	0.00	4078.56	3866.00	189.36	86.05
435	0.00	4079.53	3945.00	134.53	90.33
436	0.00	4079.08	3908.00	171.08	87.61
437	727.36	4079.16	3988.00	191.16	91.50
438	0.00	3979.48	3963.00	16.48	4.96
439	0.00	4077.32	3978.00	122.32	83.06
440	0.00	4078.48	3978.00	100.48	52.61
441	0.00	4101.00	3980.00	121.00	68.16
442	0.00	4089.02	3980.00	109.02	61.62
443	0.00	4084.60	3980.00	104.60	60.49
444	0.00	4083.36	3930.00	153.36	89.11
445	7.00	4218.57	3982.00	236.57	58.00
446	0.00	4166.66	4030.00	136.56	66.30
447	0.00	4165.02	4030.00	135.02	66.12
448	21.00	4166.79	4009.00	157.79	65.26
449	45.04	4166.79	3950.00	216.79	82.61
450	190.75	4158.64	4033.00	125.64	57.13
451	0.00	4158.67	4020.00	138.67	58.33
452	0.00	4158.64	4033.00	125.64	52.06
453	0.00	4158.11	4033.00	125.11	58.18
454	63.00	4166.63	4024.00	142.63	59.98
455	0.00	4158.65	4025.00	133.65	55.84
456	0.00	4158.37	4041.00	117.37	53.93
457	0.00	4159.35	4037.00	122.36	56.16
458	0.00	4158.37	4041.00	117.37	55.84
459	122.00	4211.41	4032.00	179.41	74.61
460	0.00	4211.41	4038.00	173.41	72.40
461	0.00	4212.41	4042.00	170.41	78.79

360	0.00	4076.16	4161.00	179.36	77.20
365	0.00	4211.40	4161.00	337.00	67.86
366	0.00	4211.37	4155.00	311.37	65.66
367	35.00	4211.37	4155.00	401.37	65.61
368	1.96	4211.33	4153.00	93.33	63.17
369	35.00	4211.26	4117.00	91.26	65.61
370	33.00	4211.26	4153.00	65.26	34.77
371	33.00	4211.37	4125.00	81.37	38.91
372	32.92	4211.31	4150.00	92.33	31.25
373	32.00	4211.27	4150.00	65.23	36.31
374	34.16	4210.13	4156.00	66.23	33.93
375	4.00	4211.33	4138.00	72.33	33.36
376	0.13	4210.03	4138.00	72.23	33.31
377	1.96	4210.23	4150.00	67.23	36.11
378	10.26	4210.23	4140.00	72.23	33.63
379	19.35	4210.16	4103.00	95.36	63.31
380	19.35	4210.63	4135.00	86.63	39.44
381	135.00	3968.49	3870.00	98.49	42.69
382	0.00	3972.41	3873.00	135.62	43.31
383	0.00	3971.04	3873.00	135.04	43.39
384	0.00	3972.69	3872.00	135.69	43.84
385	0.00	3973.39	3875.00	98.29	43.59
386	0.00	3973.62	3873.00	99.22	43.88
387	0.00	3973.43	3870.00	99.69	43.88
388	0.00	3973.86	3877.00	96.66	43.84
389	0.00	3973.62	3875.00	99.62	43.73
390	0.00	3973.74	3875.00	98.78	43.83
391	0.00	3973.06	3871.00	100.07	43.89
392	0.00	3973.39	3869.00	99.39	43.83
393	0.00	3973.33	3869.00	99.33	43.86
394	0.00	3973.33	3868.00	99.33	43.84
395	0.00	3973.33	3869.00	99.33	43.87
396	0.00	3973.37	3869.00	99.37	43.87
397	0.00	3973.34	3869.00	99.34	43.89
398	0.00	3973.32	3869.00	99.32	43.86
399	0.00	3973.33	3869.00	99.33	43.86
400	0.00	3973.33	3869.00	99.33	43.86
401	0.00	3973.33	3869.00	99.33	43.87
402	0.00	3973.33	3869.00	99.33	43.87
403	0.00	3973.37	3869.00	99.33	43.86
404	0.00	3973.33	3869.00	99.33	43.84
405	0.00	3973.33	3869.00	99.33	43.90
406	0.00	3973.33	3869.00	99.33	43.90
407	0.00	3973.33	3869.00	99.33	43.86
408	0.00	3973.33	3869.00	99.33	43.86
409	0.00	3973.33	3869.00	99.33	43.87
410	0.00	3973.33	3869.00	99.33	43.74
411	0.00	3970.62	3869.00	96.62	41.39
412	0.00	3967.04	3963.00	7.00	3.62
413	0.00	3962.00	3960.13	38.88	33.88
416	0.00	4134.37	3960.13	152.37	65.96
418	0.00	4134.68	4099.00	33.10	8.32
426	0.00	3914.00	3900.00	37.00	42.02
603	4006.00	3974.00	3965.00	10.00	8.19
725	0.00	3979.47	3965.00	16.47	6.29
761	0.00	3992.00	3960.00	32.00	30.00

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURES (psia)	JUNCTION NUMBER	MINIMUM PRESSURES (psia)
364	77.00	823	7.00
367	71.10	330	4.96
392	70.10	335	4.97
3.0	71.10	82	4.71
313	69.84	715	4.82

MC / 1000

PIPE NUMBER	MAXIMUM MC/1000 (SCF/DC)	PIPE NUMBER	MINIMUM MC/1000 (SCF/DC)
367	83.93	417	0.00
368	69.37	819	0.00
818	32.62	563	0.00
329	89.35	818	0.00
829	36.36	432	0.00

REGULATING VALVE REPORT

ID LABEL	VALVE TYPE	POSITION NODE	CONTROLLED PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROUGH FLOW (MSCF
R1	PRV-1	264	449	4211.00	THROTTLED	4219.36	4211.00	3.09 24

SUMMARY OF INFLOWS AND OUTFLOWS

(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm	NODE TITLE
AA	43	3140.69	Tank 930(
BB	329	3851.03	Tank 139
CC	337	3.89	Tank 7390
DD	339	314.81	Tank 7386
EE	662	644.12	Tank 734.
FF	634	-318.66	Tank 734(
GG	669	195.56	Tank 7779
HH	814	1718.74	Tank 693
II	819	-134.11	Tank 1310
JJ	823	134.11	Tank 1319
KK	826	(.90	Tank 3693. 91. 93
LL	819	918.24	Tank 7991(
MM	914	-1.89	Tank 7988(

NET SYSTEM INFLOW = 16713.85
NET SYSTEM OUTFLOW = -139.99
NET SYSTEM DEMAND = 16573.87

C H A N G E S F O R N E X T S I M U L A T I O N

D E M A N D C H A N G E S

DEMAND TYPE = 1 - COV = 0.734

P I P E P A R A M E T E R C H A N G E S

STATUS CODE XE -CLOSED PIPE FG -FIXED GRADE NODE PO -PUMP LINE
CV -CHECK VALVE GV -REGULATING VALVE

PIPE NUMBER	NODE NO. #1	NODE NO. #2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF	MINOR LOSS COEFF	FRICTION (ft)
824-PU	825	364	70.0	12.0	130.00	0.00	0.00

FOR PUMP IDENTIFYING NUMBER (ID) = 9

823-PU	823	825	70.0	14.0	130.00	0.00	0.00

THERE IS A PUMP IN LINK 823 DESCRIBED BY THE FOLLOWING DATA.

HEAD (ft)	FLOWRATE (gpm)
171.00	0.00
163.00	2100.00
135.00	5000.00

FOR PUMP IDENTIFYING NUMBER (ID) = 10

817-PU	823	821	70.0	16.0	130.00	0.00	0.00

FOR PUMP IDENTIFYING NUMBER (ID) = 8

818-PU	823	821	70.0	16.0	130.00	0.00	0.00

THERE IS A PUMP IN LINK 818 DESCRIBED BY THE FOLLOWING DATA

HEAD (ft)	FLOWRATE (gpm)
221.00	0.00
196.00	3500.00
130.00	7000.00

FOR PUMP IDENTIFYING NUMBER (ID) = 11

601	333	338	90.0	12.0	130.00	0.00	0.00
826-PU	826	819	100.0	20.0	130.00	0.00	0.00

FOR PUMP IDENTIFYING NUMBER (ID) = 6

617	336	340	970.0	12.0	130.00	0.00	0.00
618	340	350	1200.0	12.0	130.00	0.00	0.00
641	350	354	610.0	12.0	130.00	0.00	0.00
641-PU	338	6	690.0	12.0	130.00	0.00	4115.38
818-PU	816	819	100.0	20.0	130.00	0.00	1.00

FOR PUMP IDENTIFYING NUMBER (ID) = 10

S I M U L A T I O N R E S U L T S

THE RESULTS ARE OBTAINED AFTER 11 TRIALS WITH AN ACCURACY = 0.001

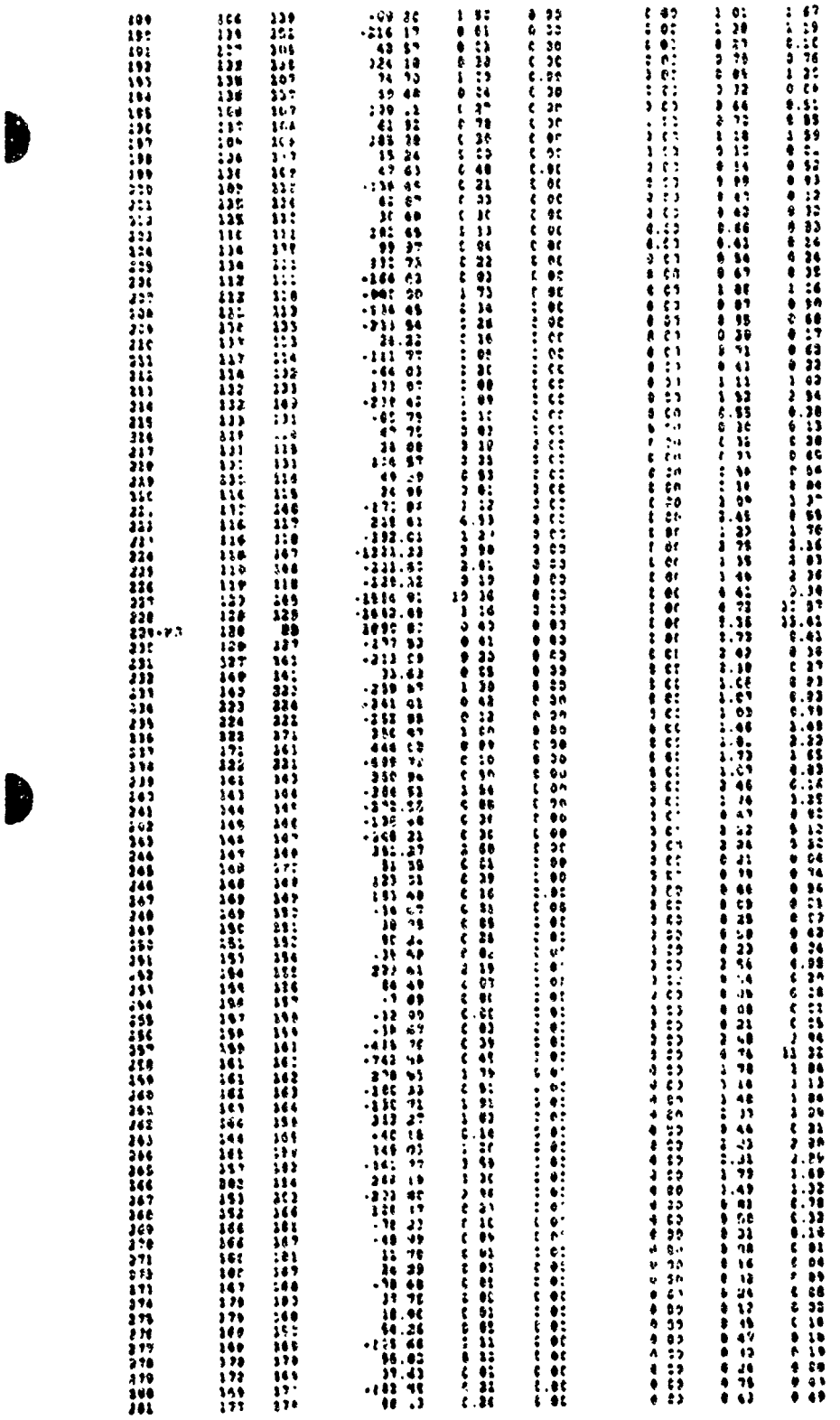
S I M U L A T I O N D E S C R I P T I O N L A B E L

Simulation of TANK Filling

P I P E - L I N E R E S U L T S

STATUS CODE XX -CLOSED PIPE PS -PLACED SPACE NODE PU -PUMP LINE
CV -CHECK VALVE RV -REGULATING VALVE TK -STORAGE TANK

PIPE NUMBER	NODE #1	NODE #2	FLOWRATE (CFS)	HEAD LOSS (FT)	PUMP HEAD (FT)	PUMP LABEL	MINOR LOSS (FT)	LINE VELOC (FT/S)	(FT/FT)
1	1	2	5.13	1.01	0.00		0.00	5.16	0.05
2	2	3	10.50	2.21	0.00		0.00	5.35	0.06
3	3	4	37.35	0.17	0.00		0.00	5.42	0.10
4	4	5	-11.04	1.02	0.00		0.00	1.33	0.02
5	5	6	-8.19	0.01	0.00		0.00	1.32	0.01
6	6	8	7.15	0.01	0.00		0.00	1.00	0.01
7	6	9	-45.91	0.07	0.00		0.00	5.52	0.07
8	6	5	62.61	0.07	0.00		0.00	1.06	0.03
9	9	3	37.19	1.04	0.00		0.00	5.36	0.05
10	10	2	32.97	0.01	0.00		0.00	5.16	0.04
11	11	1	10.33	0.02	0.00		0.00	1.11	0.01
12	11	11	-5.68	0.01	0.00		0.00	1.06	0.01
13	10	9	12.68	0.03	0.00		0.00	1.36	0.06
14	9	8	55.19	0.13	0.00		0.00	1.45	0.09
15	8	7	-33.80	0.03	0.00		0.00	3.15	0.03
16	7	10	-56.00	0.08	0.00		0.00	0.28	0.00
17	35	12	36.00	0.19	0.00		0.00	3.42	0.10
18	12	13	3.00	0.00	0.00		0.00	0.13	0.00
19	13	7	40.00	0.08	0.00		0.00	0.46	0.02
20	34	14	40.46	0.27	0.00		0.00	0.46	0.00
21	17	22	-10.74	0.00	0.00		0.00	0.17	0.00
22	17	16	11.00	0.00	0.00		0.00	0.17	0.00
23	26	15	8.00	0.00	0.00		0.00	0.05	0.00
24	16	12	30.49	0.12	0.00		0.00	0.12	0.00
25	15	14	41.62	0.18	0.00		0.00	0.27	0.00
26	14	9	83.33	0.18	0.00		0.00	0.95	0.00
27	29	15	33.33	0.15	0.00		0.00	0.00	0.00
28	28	14	30.68	0.01	0.00		0.00	0.35	0.00
29	27	25	33.33	0.10	0.00		0.00	0.15	0.00
30	14	13	-0.71	0.00	0.00		0.00	0.00	0.00
31	13	31	21.68	0.04	0.00		0.00	0.08	0.00
32	16	11	10.07	0.01	0.00		0.00	0.02	0.00
33	33	12	-0.35	0.00	0.00		0.00	0.01	0.00
34	34	32	33.30	0.07	0.00		0.00	0.36	0.00
35	33	34	-0.37	0.00	0.00		0.00	0.00	0.00
36	33	33	30.44	0.06	0.00		0.00	0.10	0.00
37	32	32	6.01	0.00	0.00		0.00	0.00	0.00
38	32	30	17.33	0.05	0.00		0.00	0.08	0.00
39	30	29	0.33	0.00	0.00		0.00	0.00	0.00
40	27	27	-46.36	0.06	0.00		0.00	0.23	0.00
41	30	28	5.35	0.00	0.00		0.00	0.01	0.00
42	31	26	1039.60	1.38	0.00		0.00	0.93	0.00
43	31	24	47.71	0.06	0.00		0.00	0.21	0.00
44	29	28	-0.16	0.00	0.00		0.00	0.00	0.00
45	23	25	-0.18	0.00	0.00		0.00	0.00	0.00
46	25	24	-0.66	0.00	0.00		0.00	0.00	0.00
47	24	23	-0.30	0.00	0.00		0.00	0.00	0.00
48	21	20	0.43	0.00	0.00		0.00	0.00	0.00
49	20	22	0.21	0.00	0.00		0.00	0.00	0.00
50	22	21	0.21	0.00	0.00		0.00	0.00	0.00
51	21	18	0.21	0.00	0.00		0.00	0.00	0.00
52	23	42	-108.35	0.06	0.00		0.00	0.14	0.00
53	22	41	13.03	0.00	0.00		0.00	0.03	0.00
54	41	36	86.33	0.03	0.00		0.00	0.18	0.00
55	31	39	-1077.92	1.11	0.00		0.00	2.65	0.04
56	42	41	116.18	0.13	0.00		0.00	0.24	0.00
57	43	42	100.46	0.05	0.00		0.00	0.21	0.00
58	42	43	-11.27	0.00	0.00		0.00	0.02	0.00
59	22	43	-48.38	0.07	0.00		0.00	0.03	0.00
60	44	43	86.28	0.03	0.00		0.00	0.02	0.00
61	44	45	48.12	0.01	0.00		0.00	0.06	0.00
62	45	40	32.77	0.01	0.00		0.00	0.04	0.00
63	41	38	-142.66	0.10	0.00		0.00	0.14	0.00
64	16	38	115.74	0.16	0.00		0.00	0.24	0.00
65	38	37	-48.92	0.06	0.00		0.00	0.07	0.00
66	36	37	46.10	0.06	0.00		0.00	0.07	0.00
67	18	20	81.05	0.28	0.00		0.00	0.40	0.00
68	36	35	85.48	0.23	0.00		0.00	0.43	0.00
69	32	31	150.33	0.31	0.00		0.00	0.76	0.00
70	31	30	1301.48	2.13	0.00		0.00	3.18	0.24
71	30	29	-133.46	0.17	0.00		0.00	0.29	0.01
72	27	29	182.41	0.32	0.00		0.00	0.17	0.00
73	47	45	91.67	0.09	0.00		0.00	0.18	0.00
74	46	44	49.08	0.02	0.00		0.00	0.10	0.00
75	46	47	96.16	0.14	0.00		0.00	0.46	0.01
76	44	48	-46.22	0.03	0.00		0.00	0.08	0.00
77	45	46	99.16	0.12	0.00		0.00	0.06	0.00
78	34	35	-38.49	0.07	0.00		0.00	0.22	0.00
79	34	48	38.49	0.06	0.00		0.00	0.00	0.00
80	48	49	-91.49	0.07	0.00		0.00	0.00	0.00
81	43	49	86.36	0.13	0.00		0.00	0.38	0.00
82	44	48	182.72	0.79	0.00		0.00	0.57	0.00
83	46	46	-86.40	0.03	0.00		0.00	0.05	0.00
84	46	47	-188.91	0.08	0.00		0.00	1.00	0.00
85	45	48	-146.78	0.11	0.00		0.00	0.61	0.00
86	46	47	-289.87	0.18	0.00		0.00	0.86	0.00
87	45	73	-82.57	0.15	0.00		0.00	0.36	0.00
88	93	93	-302.92	0.93	0.00		0.00	0.36	0.00



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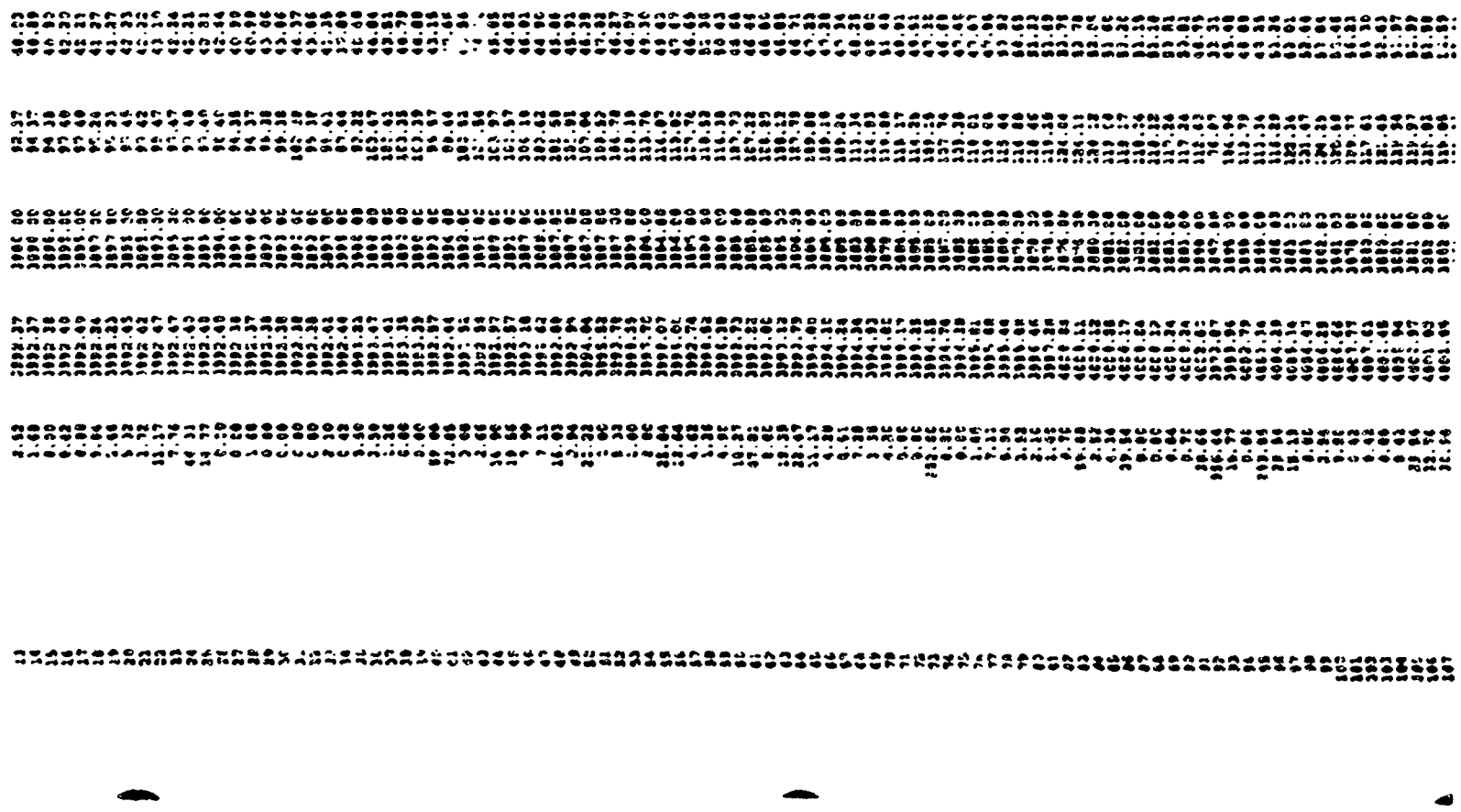
367	269	364	-21.36	0.00	1.00	0.00	0.00	0.00
368	275	371	-19.46	0.02	1.00	0.00	0.02	0.02
369	274	366	-188.41	0.88	1.00	0.00	0.46	0.18
370	281	376	133.48	0.48	1.00	0.00	0.22	0.06
371	277	376	-92.52	0.26	1.00	0.00	0.59	0.06
372	277	367	223.37	0.81	1.00	0.00	2.53	0.11
373	257	356	141.70	1.33	1.00	0.00	1.61	0.12
374	258	284	3.41	0.01	1.00	0.00	0.04	0.05
375	277	381	-64.71	0.11	1.00	0.00	0.73	0.02
376	281	379	41.03	0.14	1.00	0.00	0.47	0.07
377	280	381	-186.26	0.11	1.00	0.00	0.46	0.16
378	281	378	83.47	0.81	1.00	0.00	0.61	0.01
379	281	376	-[illegible]	0.38	1.00	0.00	3.10	0.21
380	279	383	[illegible]	0.06	1.00	0.00	0.39	0.21
381	283	384	64.87	0.18	1.00	0.00	0.42	0.23
382	283	382	-74.91	[illegible]	1.00	0.00	0.85	1.31
383	278	379	53.46	0.21	1.00	0.00	0.61	0.05
384	282	381	-23.43	0.01	1.00	0.00	0.16	0.05
385	282	372	-61.50	0.06	1.00	0.00	0.70	0.06
386	276	373	-183.41	0.86	1.00	0.00	0.75	0.43
387	273	397	-238.81	0.97	1.00	0.00	1.03	0.02
388	272	271	-47.93	0.36	1.00	0.00	0.54	0.03
389	271	268	-20.59	0.18	1.00	0.00	0.33	0.30
390	271	270	-39.65	0.31	1.00	0.00	0.45	0.37
391	268	269	-12.18	0.06	1.00	0.00	0.14	0.06
392	270	269	-2.11	0.01	1.00	0.00	0.02	0.06
393	269	405	-36.11	0.07	1.00	0.00	0.30	0.09
394	404	401	-48.15	0.07	1.00	0.00	0.51	0.36
395	435	391	-71.26	0.18	1.00	0.00	0.29	0.08
396	432	365	-18.15	0.02	1.00	0.00	0.14	0.06
397	338	370	89.46	0.17	1.00	0.00	0.48	0.07
398	348	399	60.35	0.21	1.00	0.00	0.15	0.02
399	347	390	192.17	0.39	1.00	0.00	1.78	0.47
400	336	371	-30.45	0.05	1.00	0.00	0.11	0.11
401	372	394	-11.99	0.03	1.00	0.00	0.16	0.05
402	394	396	-41.41	0.07	1.00	0.00	0.49	0.41
403	396	399	-41.19	0.03	1.00	0.00	0.47	0.47
404	349	403	-10.19	0.02	1.00	0.00	0.12	0.03
405	405	404	-12.76	0.01	1.00	0.00	0.11	0.03
406	403	404	-37.39	0.06	1.00	0.00	0.34	0.15
407	401	401	-37.39	0.06	1.00	0.00	0.19	0.05
408	401	402	-19.83	0.04	1.00	0.00	0.12	0.05
409	400	401	-46.18	0.07	1.00	0.00	0.24	0.13
410	400	399	-10.16	0.18	1.00	0.00	0.24	0.22
411	400	399	78.14	0.17	1.00	0.00	0.49	0.31
412	395	396	-19.46	0.04	1.00	0.00	0.23	0.15
413	395	393	96.08	0.21	1.00	0.00	0.41	0.07
414	392	394	-27.52	0.08	1.00	0.00	0.33	0.33
415	391	392	133.82	0.29	1.00	0.00	0.79	0.79
416	269	272	-22.13	0.04	1.00	0.00	0.15	0.13
417	385	383	-123.82	0.69	1.00	0.00	0.99	0.79
418	383	386	-68.67	0.15	1.00	0.00	0.42	0.33
419	386	389	-48.02	0.07	1.00	0.00	0.31	0.13
420	386	387	-2.87	0.01	1.00	0.00	0.10	0.02
421	384	386	12.88	0.02	1.00	0.00	0.15	0.05
422	384	381	-13.08	0.02	1.00	0.00	0.15	0.05
423	381	379	-13.08	0.02	1.00	0.00	0.15	0.05
424	381	383	3.87	0.02	1.00	0.00	0.10	0.05
425	387	383	-3.87	0.02	1.00	0.00	0.10	0.05
426	389	390	-45.07	0.01	1.00	0.00	0.42	0.33
427	391	391	-71.86	0.12	1.00	0.00	0.46	0.38
428	391	389	-6.79	0.02	1.00	0.00	0.33	0.08
429	386	385	44.49	0.08	1.00	0.00	0.14	0.01
430	383	386	110.07	0.28	1.00	0.00	0.14	0.06
431	391	384	-35.43	0.11	1.00	0.00	0.23	0.11
432	391	386	-6.62	0.14	1.00	0.00	0.12	0.07
433	391	391	-1.75	0.00	1.00	0.00	1.01	0.78
434	383	382	-168.98	0.76	1.00	0.00	2.14	0.49
435	382	385	-168.66	0.75	1.00	0.00	1.21	1.65
436	388	384	45.44	0.01	1.00	0.00	0.82	0.48
437	384	384	18.66	0.01	1.00	0.00	0.81	0.89
438	384	382	-1.13	0.00	1.00	0.00	0.03	0.00
439	382	387	-15.72	0.08	1.00	0.00	0.18	0.07
440	378	387	-18.22	0.02	1.00	0.00	0.18	0.07
441	387	389	-10.72	0.28	1.00	0.00	0.44	0.16
442	389	388	-41.22	0.17	1.00	0.00	0.48	0.16
443	388	391	52.49	0.09	1.00	0.00	0.48	0.03
444	391	392	-16.17	0.04	1.00	0.00	0.15	0.00
445	393	394	-35.14	0.01	1.00	0.00	0.23	0.11
446	388	394	-28.78	0.11	1.00	0.00	0.38	0.18
447	387	387	-78.17	0.31	1.00	0.00	0.38	0.06
448	387	388	74.99	0.29	1.00	0.00	0.48	0.16
449	388	390	-43.01	0.04	1.00	0.00	0.56	0.11
450	393	391	-38.99	0.03	1.00	0.00	0.33	0.11
451	391	388	38.06	0.15	1.00	0.00	0.43	0.18
452	388	388	-144.64	0.33	1.00	0.00	0.59	0.17
453	389	388	362.13	1.33	1.00	0.00	0.79	0.43
454	389	389	357.08	1.31	1.00	0.00	1.64	0.82
455	389	390	357.08	1.31	1.00	0.00	1.66	0.89
456	385	391	-126.35	0.46	1.00	0.00	1.43	1.73
457	385	409	2767.98	6.81	0.00	0.00	5.01	0.60
458	385	349	-2464.62	11.78	0.00	0.00	5.21	0.56
459	329	334	-8.76	0.01	1.00	0.00	0.26	0.01
460	329	324	-8.93	0.01	1.00	0.00	0.28	0.01

317	313	310	3C 36	6 23	0 00	0 00	0.23	0.11
318	312	311	3C.79	0 14	0 00	0 00	0.24	0.11
319	311	309	9F.96	0.62	0.00	0.00	0.86	0.72
320	311	292	-4C 02	0.23	0.00	0 00	0 45	0.38
321	291	292	2C9 98	4.89	0 00	0.00	1.17	0.99
322	292	293	233 79	0 96	0 00	0 00	0 95	0.60
323	295	294	-3514 95	1 42	0 00	0.00	2.42	2.19
324	246	247	-66 59	0 22	0 00	0.00	0 42	0 23
325	248	245	39 69	0 16	0 00	0.00	0 35	0 17
326	246	223	3C2.24	3 45	0 00	0.00	3 03	2.42
327	226	225	-129 05	1 02	0 00	0.00	1 47	1 02
328	226	215	-356.14	0 37	0 00	0.00	1.45	1.49
329	230	216	-479.62	2.56	0 00	0.00	1.96	1.57
330	229	246	602.11	0 64	0 00	0 00	2 79	4.93
331	240	247	535.64	0.87	0 00	0 00	2 19	3 15
332	251	247	-617.18	0 68	0 00	0 00	1 87	2 35
333	313	291	-180.56	0.96	0 00	0 00	1.82	4 92
334	113	312	-131.82	0 67	0 00	0.00	1.80	3.66
335	314	313	-111.48	0 50	0 00	0.00	1.56	2.52
336	317	316	-125.97	0.41	0 00	0.00	1 16	2.14
337	31.	317	-126.43	0 42	0 00	0 00	1 18	2.23
338	321	318	-122.41	0 38	0 00	0.00	1 10	2.15
339	322	321	-5 79	0.00	0 00	0.00	0 01	0.00
340	325	322	-3 85	0 00	0 00	0.00	0 04	0 01
341	324	323	-29.67	0 04	0 00	0 00	0 26	0.13
342	321	320	-53 68	0 11	0 00	0.00	0 61	0 25
343	320	319	-48.80	0 13	0 00	0 00	0 55	0 22
344	316	319	88.13	0 43	0 00	0.00	1 09	1.02
345	316	318	-90 67	0 26	0 00	0 00	0 83	1.03
346	318	316	-81 16	0 32	0 00	0.00	0 92	1.40
347	310	309	-40 81	0 19	0 00	0 00	0 69	0.92
348	309	293	-7.45	0 00	0 00	0 00	0.06	0.02
349	293	294	959 83	1.33	0 00	0 00	1 93	3.03
350	294	226	-454 33	1.46	0 00	0 00	3 28	3.42
351	293	248	-704 25	1.93	0 00	0 00	3 04	5 01
352	245	246	-638 99	2 67	0 00	0 00	2 85	5.16
353	244	242	-358 44	1 71	0 00	0 00	2 26	2 88
354	241	243	-283 14	1 01	0 00	0 00	1 01	1 98
355	242	241	-128.28	0 32	0 00	0 00	0 83	0.44
356	241	240	-40.89	0 01	0 00	0 00	0.26	0.01
357	240	225	-360 68	1.63	0 00	0 00	2.35	2.87
358	215	229	-688.62	1.16	0.00	0 00	3 01	4.64
359	241	234	-48 71	0 71	0 00	0 00	1 05	0 97
360	230	235	-367 26	1 93	0 00	0 00	2 28	3 82
361	234	232	265.08	0.87	0 00	0 00	1 84	1 59
362	262	227	-171.26	0.89	0 00	0 00	1 09	0 76
363	263	233	-75 79	0 49	0 00	0 00	0 88	0 67
364	233	232	170.93	0.19	0.00	0 00	1 13	0 78
365	264	232	-344.16	1.82	0 00	0 00	1 41	1 39
366	232	231	-173.76	0 63	0.00	0 00	0.71	0.39
367	257	251	-739.46	13.77	0.00	0 00	3 92	8.73
368	256	255	-796.39	3.35	0 00	0 00	3 25	6 87
369	254	261	718.77	2.83	0 00	0 00	3 96	5 63
370	264	261	-113.62	1 89	0 00	0 00	1 28	1 41
371	257	255	-498.09	1.83	0.00	0 00	3 02	3 98
372	206	207	-4 16	0.00	0 00	0.00	0.05	0 00
373	250	207	-469.46	1 31	0 00	0 00	1.78	2 39
374	196	208	136.35	0.04	0 00	0 00	0.01	0 03
375	227	228	9C 46	0.33	0 00	0 00	0 47	0 21
376	229	228	-66.48	0 10	0 00	0 00	0 46	0 42
377	228	226	80 47	0.35	0.00	0 00	0.91	0 76
378	208	206	-162.28	0 76	0.00	0 00	1.43	2.18
379	233	209	-711.91	13.69	0 00	0 00	2.02	1 39
380	206	204	-162 46	0.99	0 00	0 00	1.45	2 23
381	206	206	-48 01	0.13	0.00	0 00	0.49	0 39
382	209	209	-5.81	0 00	0 00	0 00	0.03	0 00
383	221	221	-69 59	0.18	0.00	0 00	0 79	0 62
384	201	206	16.91	0 03	0.00	0 00	0 21	0 05
385	201	200	15 27	0.03	0 00	0 00	0.17	0 03
386	202	203	8.37	0.01	0 00	0 00	0.13	0 01
387	211	210	7.50	0.01	0.00	0 00	0 09	0 01
388	229	231	-6.96	0.01	0 00	0 00	0.08	0 01
389	229	230	-1.68	0.00	0.00	0 00	0 04	0 00
390	230	201	-4 83	0.01	0.00	0 00	0.08	0 01
391	223	200	-8 02	0.00	0.00	0 00	0 09	0 01
392	220	209	-1 16	0.00	0.00	0.00	0.02	0 00
393	209	205	-3.67	0.00	0.00	0 00	0 06	0 00
394	221	202	24.98	0.02	0.00	0 00	0 31	0 10
395	225	221	11.11	0 01	0.00	0.00	0.11	0.01
396	231	230	-21.19	0.01	0.00	0 00	0.24	0 07
397-98	232	CC	-1863 24	0.29	0.00	0.00	3.58	4 00
398	701	232	233 86	0.30	0.00	0.00	0 95	0 67
399-00	232	80	3699 19	0.40	0.00	0.00	8 94	25 07
400-XX	897	369						
401	333	338	-719.44	0.52	0.00	0.00	3 62	5.73
402	338	297	-739 46	4.35	0.00	0.00	3 62	5 71
403	337	336	-248 42	0 98	0.00	0.00	1.65	4.13
404	336	338	-61 94	0.13	0 00	0 00	0 69	0.48
405	336	337	19 49	0.10	0.00	0.00	0.65	0 37
406	335	336	-115 43	1.76	0.00	0.00	1.48	3.38
407	336	340	-876.05	13.20	0.00	0 00	3.13	13 81
408	339	339	-331 03	0.30	0.00	0.00	3.52	14 76
409-XX	338	347						
410	346	339	189 91	1.66	0.00	0 00	1.76	4 64

616-RX	346	361								
617	634	345	2892.11	6.24	1.00	1.00	0.93	11.77		
618	345	356	3006.78	11.63	1.01	1.00	0.92	10.61		
619	344	366	118.91	1.82	1.01	1.00	1.35	3.00		
620	346	367	41.36	0.82	1.01	1.00	0.26	0.31		
621	343	348	-196.99	2.83	1.01	1.00	1.22	7.23		
622	347	346	41.16	0.82	1.01	1.00	0.26	0.10		
623	348	349	8.66	0.30	1.01	1.00	0.09	0.01		
624	349	350	-118.12	0.96	1.01	1.00	1.30	1.22		
625	348	351	-171.85	0.87	1.01	1.00	1.09	1.37		
626	351	352	-74.75	0.89	1.01	1.00	0.49	0.31		
627	351	302	-48.98	0.20	1.01	1.00	0.63	0.51		
628	352	353	73.96	0.38	1.01	1.00	0.86	1.19		
629	353	354	68.76	0.35	1.01	1.00	0.63	1.24		
630	346	356	-162.16	0.61	1.00	1.00	1.02	1.24		
631	354	355	-137.92	0.24	1.00	1.00	0.86	0.92		
632	388	357	-141.78	0.66	1.00	1.00	0.95	0.97		
633	357	358	-316.11	2.15	1.00	1.00	2.01	4.28		
634	352	357	-173.26	0.21	1.00	1.00	1.11	1.41		
635	359	360	364.74	0.88	1.00	1.00	1.24	3.11		
636	360	359	477.40	0.89	1.00	1.00	1.91	3.35		
637	359	361	-172.66	0.84	1.00	1.00	1.10	1.43		
638	361	362	-171.28	0.32	1.00	1.00	1.10	1.49		
639-RX	361	363								
640	359	362	-405.24	0.98	0.00	1.00	1.66	3.80		
641	359	358	-444.31	6.87	0.00	1.00	4.99	17.43		
642	358	356	-3085.84	6.92	0.00	1.00	1.92	10.64		
643-PX	356	EX	1868.89	3.36	0.00	1.00	4.47	6.06		
644-PX	361	PP	-3220.43	3.11	0.00	1.00	8.35	36.85		
645	363	362	178.33	1.93	0.00	1.00	2.36	3.63		
646	363	328	1461.11	0.38	0.00	1.00	4.19	6.34		
647-RV	364	368	131.47	0.00	0.00	1.00	0.32	0.04		
648	368	379	1430.64	0.00	0.00	1.00	3.77	0.36		
649	365	366	151.47	0.38	0.00	1.00	0.32	0.04		
650	366	368	89.06	0.23	0.00	1.00	0.36	0.11		
651	366	367	28.38	0.05	0.00	1.00	0.21	0.05		
652	367	369	7.93	0.00	0.00	1.00	0.09	0.02		
653	369	368	-11.89	0.03	0.00	1.00	0.15	0.03		
654	369	370	9.76	0.01	0.00	1.00	0.11	0.03		
655	370	371	-8.23	0.01	0.00	1.00	0.11	0.03		
656	370	378	9.48	0.01	0.00	1.00	0.09	0.02		
657	378	376	-2.61	0.00	0.00	1.00	0.03	0.00		
658	378	377	8.28	0.00	0.00	1.00	0.09	0.00		
659	377	376	-2.87	0.00	0.00	1.00	0.03	0.00		
660	377	373	1.27	0.00	0.00	1.00	0.01	0.00		
661	376	375	-13.87	0.00	0.00	1.00	0.00	0.00		
662	375	376	38.03	0.00	0.00	1.00	0.00	0.00		
663	375	372	-26.89	0.00	0.00	1.00	0.00	0.00		
664	374	373	3.06	0.00	0.00	1.00	0.00	0.00		
665	373	372	-8.51	0.00	0.00	1.00	0.00	0.00		
666	372	371	-85.17	0.00	0.00	1.00	0.00	0.00		
667	371	368	-72.98	0.00	0.00	1.00	0.00	0.00		
668	379	380	3318.55	2.71	0.00	1.00	3.76	8.22		
669-VT	383	MM	3386.38	1.37	0.00	1.00	3.76	6.15		
201	629	519	-4861.67	2.07	0.00	1.00	4.90	6.14		
836-PP	61	MM	5817.85	0.42	0.00	1.00	3.45	2.71		
837-PV	832	421	3699.93	0.19	124.14	P1	0.00	2.71		
838-PV	833	511	7593.08	1.04	124.99	P2	0.00	12.15	41.28	
839-PP	833	11	-4846.67	0.89	1.00		0.00	4.76	1.09	
840-PP	832	JJ	-4846.96	0.89	1.00		0.00	4.76	1.09	
841	332	822	3892.15	0.81	0.00		0.00	4.36	1.07	
842-RXPV	823	824								
843-PV	823	826	3892.13	0.35	101.21	P4	0.00	4.36	1.08	
844-PV	825	314	3842.11	0.36	176.28	P5	0.00	4.69	1.00	
845-RXPV	825	374								
846-PP	EX	826	4831.69	0.61	1.00		0.00	4.90	4.14	
847-RXPV	826	519								
848-RXPV	826	519								
849-RXPV	826	519								
THE PUMP IN LINE 830 IS OPERATING OUT OF RANGE										
850-PP	826	519	4831.67	1.61	1448.67	P10	0.00	4.90	4.14	
851	827	828	-4831.67	6.81	0.00		0.28	4.90	4.14	
988	660	700	1468.06	11.17	0.00		0.00	3.66	3.00	
815-PP	706	LL	1468.06	0.08	0.00		0.00	3.66	3.00	
812-RX	332	710								
813-RX	706	331								
814-RX	701	333								
816-PP	701	MM	-731.46	0.00	0.00		0.00	0.40	0.11	

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	HYDRAULIC GRADE (FT)	JUNCTION ELEVATION (FT)	PRESSURE HEAD (PSI)	JUNCTION PRESSURE (PSI)
1		0.00	3993.33	3901.00	87.51	37.94
2		1.26	3912.52	3902.00	99.35	39.14
3		20.00	3993.33	3900.00	92.81	39.94
4		87.46	3993.00	3900.00	93.24	39.98
5		30.30	3993.00	3897.30	93.01	41.19
6		29.79	3993.00	3900.30	93.01	39.99
7		6.03	3993.15	3897.30	95.15	41.93
8		44.01	3993.11	3900.00	94.17	39.91



111	46.77	4001.95	3878.00	133.95	52.71
112	1.54	4001.32	3881.00	131.33	53.69
113	6.00	4001.37	3881.00	131.37	53.63
114	8.32	4001.39	3881.00	131.39	53.64
115	8.78	4002.40	3881.00	131.46	53.61
116	6.20	3997.07	3879.00	131.07	53.94
117	8.00	4003.67	3883.00	131.67	52.89
118	8.02	4003.68	3881.00	131.68	52.91
119	7.90	3991.05	3883.00	131.05	48.99
120	8.10	3992.05	3883.00	132.05	49.01
121	1.46	3997.01	3885.00	132.01	46.94
122	4.78	3997.98	3880.00	107.98	46.62
123	4.20	3994.93	3887.00	105.93	46.89
124	66.62	3997.26	3888.00	105.26	47.34
125	7.84	3994.06	3888.00	111.08	47.78
126	7.98	3994.01	3883.00	104.01	48.42
127	7.60	3994.60	3886.00	104.60	46.97
128	7.68	3995.06	3885.00	111.06	47.91
129	7.40	4002.91	3883.00	132.93	53.27
130	6.76	4002.97	3878.00	126.97	53.88
131	8.42	4002.96	3877.00	127.96	54.41
132	8.00	4002.48	3877.00	127.48	54.37
133	8.04	4002.39	3878.00	127.39	55.33
134	8.02	4002.36	3876.00	128.36	55.53
135	8.00	4002.11	3875.00	127.11	55.08
136	8.00	4002.11	3876.00	127.11	55.06
137	8.00	4002.14	3876.00	126.14	54.60
138	8.00	4002.03	3876.00	126.02	54.63
139	226.26	4004.86	3880.00	134.86	49.42
140	8.01	4004.01	3880.00	134.01	49.46
141	66.62	3998.86	3880.00	104.84	48.87
142	11.16	4003.93	3880.00	115.91	51.01
143	8.32	4008.05	3889.00	118.05	51.32
144	8.13	4008.93	3886.00	119.93	51.97
145	8.00	4004.39	3885.00	131.89	53.66
146	8.00	4004.01	3885.00	131.88	53.73
147	8.00	4004.05	3883.00	131.88	53.68
148	8.04	4003.66	3879.00	126.66	56.80
149	8.00	4003.86	3878.00	127.66	55.38
150	8.00	4003.81	3878.00	127.61	55.36
151	8.02	4003.33	3878.00	128.33	56.61
152	7.98	4009.01	3878.00	136.03	56.60
153	7.93	4009.99	3879.00	138.85	57.22
154	8.04	4004.06	3879.00	137.86	58.41
155	8.03	4004.76	3880.00	138.99	56.96
156	264.99	4008.80	3881.00	123.80	53.56
157	93.88	4006.89	3884.00	133.80	53.31
158	89.00	4006.82	3887.00	119.83	51.93
159	8.03	4007.08	3887.00	132.68	53.29
160	44.31	4007.22	3887.00	132.22	52.10
161	8.00	4005.44	3881.00	116.44	49.50
162	10.30	4005.85	3881.00	116.85	49.01
163	46.41	4007.86	3887.00	122.86	52.37
164	8.00	4008.06	3884.00	126.00	53.71
165	8.04	4003.84	3876.00	127.86	55.20
166	8.00	4003.84	3877.00	126.66	54.88
167	8.00	4003.71	3877.00	128.71	54.31
168	8.04	4001.87	3877.00	126.82	54.95
169	8.00	4004.84	3880.00	124.84	53.79
170	7.00	4004.00	3883.00	113.98	48.82
171	10.66	4004.98	3881.00	113.98	49.30
172	8.01	4004.87	3880.00	114.87	49.82
173	3.72	4006.18	3880.00	117.18	50.36
174	8.02	4007.14	3880.00	117.14	50.78
175	8.00	4009.87	3888.00	121.88	52.44
176	232.74	4004.17	3880.00	124.18	53.78
177	1.65	4003.86	3877.00	126.86	56.06
178	2.10	4003.72	3877.00	127.72	57.91
179	1.68	4003.67	3877.00	126.67	57.89
180	2.10	4003.66	3878.00	127.66	56.12
181	45.15	4010.38	3880.00	126.38	54.93
182	8.06	4010.84	3883.00	128.84	55.74
183	1.40	4011.31	3881.00	121.31	53.73
184	1.40	4011.79	3880.00	123.79	53.84
185	2.00	4012.20	3883.00	119.28	51.65
186	8.00	4012.31	3881.00	117.31	50.84
187	8.00	4012.46	3881.00	117.46	50.90
188	8.00	4012.71	3880.00	122.71	51.17
189	8.03	4013.84	3880.00	125.84	54.43
190	2.20	4013.38	3880.00	126.38	53.89
191	6.30	4012.18	3881.00	127.38	55.20
192	8.00	4014.39	3880.00	129.39	56.07
193	8.00	4013.88	3881.00	129.88	56.29
194	8.00	4012.98	3880.00	128.98	55.89
195	59.56	4014.37	3881.00	129.37	56.06
196	8.00	4014.61	3880.00	129.68	56.15
197	38.38	4013.78	3881.00	131.78	57.07
198	39.24	4013.91	3880.00	115.01	57.99
199	29.65	4013.38	3879.00	114.38	58.10
200	8.02	4013.82	3879.00	134.38	58.16
201	8.13	4014.35	3878.00	137.38	59.03
202	6.38	4011.98	3878.00	137.89	59.05
203	294.03	4013.78	3878.00	128.77	55.77
204	5.06	4013.84	3878.00	128.14	55.03
205	8.03	4014.03	3876.00	129.03	55.01
206	8.00	4014.73	3876.00	130.02	55.40

211	0.00	4005.80	3874.00	129.60	56.16
212	0.02	4005.60	3878.00	127.60	55.20
213	0.00	4005.60	3882.00	123.60	53.96
214	0.00	4006.20	3881.00	125.20	54.36
215	0.00	4006.80	3881.00	125.20	54.25
216	0.00	4012.71	3885.00	127.71	55.34
217	0.00	4010.80	3885.00	125.80	54.41
218	0.00	4011.04	3884.00	126.04	54.62
219	0.00	4011.08	3885.00	126.08	54.80
220	1.19	4006.15	3892.00	115.15	51.03
221	0.00	4006.00	3894.00	112.00	48.10
222	0.00	4009.00	3894.00	115.00	49.56
223	1.84	4005.20	3897.00	109.20	46.96
224	0.00	4009.78	3895.00	114.78	48.80
225	0.00	4005.08	3896.00	110.08	48.05
226	4.26	4004.16	3893.00	111.16	49.04
227	3.46	4004.68	3891.00	113.68	50.11
228	1.19	4007.73	3893.00	114.73	51.02
229	2.13	4008.01	3893.00	115.01	51.48
230	1.06	4010.29	3894.00	116.29	51.84
231	2.13	4010.29	3896.00	114.29	51.04
232	4.26	4005.05	3895.00	110.05	48.04
233	4.26	4004.05	3893.00	111.05	48.99
234	7.45	4006.93	3893.00	113.93	50.47
235	10.64	4007.65	3887.00	120.65	52.28
236	6.38	4009.83	3893.00	116.83	51.83
237	6.38	4011.42	3875.00	136.42	58.65
238	6.38	4013.41	3875.00	138.41	59.44
239	20.21	4003.78	3876.00	127.78	55.27
240	17.86	4004.22	3881.00	123.22	53.40
241	9.22	4004.21	3884.00	120.21	51.96
242	14.91	4004.09	3884.00	120.09	52.04
243	6.79	4005.86	3893.00	112.86	50.00
244	8.62	4004.04	3891.00	113.04	49.33
245	8.82	4002.34	3891.00	111.34	48.28
246	13.11	4002.04	3891.00	111.04	52.07
247	12.77	4002.74	3876.00	126.74	54.93
248	2.82	4023.33	3876.00	147.33	59.18
249	0.00	4018.66	3876.00	134.66	58.27
250	0.00	4009.21	3879.00	130.21	55.86
251	0.00	4009.21	3879.00	130.21	55.60
252	0.00	4009.35	3879.00	130.35	57.70
253	0.00	4002.80	3879.00	123.80	54.99
254	0.00	4002.38	3879.00	123.38	57.70
255	3.42	4003.25	3879.00	124.25	55.07
256	0.00	4002.36	3874.00	128.36	57.70
257	0.00	4005.31	3874.00	126.31	58.65
258	96.23	4009.70	3878.00	133.70	57.90
259	0.00	4010.83	3878.00	140.83	60.70
260	0.00	4011.00	3874.00	137.00	59.70
261	0.00	4010.18	3876.00	134.18	59.00
262	0.00	4010.00	3874.00	136.00	59.03
263	0.00	4010.86	3876.00	134.86	59.60
264	0.00	4010.00	3879.00	131.00	58.19
265	0.00	4010.00	3879.00	131.00	58.19
266	0.00	4010.00	3879.00	131.00	58.19
267	1.40	4014.31	3884.00	130.31	58.03
268	0.00	4012.71	3888.00	124.71	55.61
269	0.00	4012.73	3893.00	119.73	53.33
270	0.00	4013.78	3888.00	125.78	55.83
271	0.00	4013.04	3885.00	128.04	56.93
272	2.42	4013.19	3880.00	133.19	57.78
273	0.00	4013.28	3880.00	133.28	57.74
274	0.00	4013.00	3880.00	133.00	57.72
275	0.00	4010.22	3878.00	132.22	58.16
276	1.26	4010.21	3876.00	134.21	59.02
277	2.52	4011.93	3872.00	139.93	60.64
278	0.00	4010.60	3876.00	134.60	59.21
279	0.00	4010.00	3874.00	136.00	59.97
280	2.52	4010.94	3872.00	138.94	60.97
281	1.26	4010.60	3876.00	134.60	59.21
282	0.00	4010.00	3876.00	134.00	59.03
283	0.00	4010.24	3876.00	134.24	59.04
284	0.00	4010.84	3876.00	134.84	59.30
285	0.00	4010.84	3873.00	137.84	60.64
286	0.00	4010.84	3874.00	136.84	60.20
287	0.00	4010.84	3873.00	137.84	60.64
288	0.00	4010.84	3874.00	136.84	60.20
289	0.00	4010.84	3873.00	137.84	60.64
290	0.00	4010.84	3874.00	136.84	60.20
291	0.00	4010.84	3873.00	137.84	60.64
292	0.00	4010.84	3874.00	136.84	60.20
293	0.00	4010.84	3873.00	137.84	60.64
294	0.00	4010.84	3874.00	136.84	60.20
295	0.00	4010.84	3873.00	137.84	60.64
296	0.00	4010.84	3874.00	136.84	60.20
297	0.00	4010.84	3873.00	137.84	60.64
298	0.00	4010.84	3874.00	136.84	60.20
299	0.00	4010.84	3873.00	137.84	60.64
300	0.00	4010.84	3874.00	136.84	60.20
301	0.00	4010.84	3873.00	137.84	60.64
302	0.00	4010.84	3874.00	136.84	60.20
303	0.00	4010.84	3873.00	137.84	60.64
304	0.00	4010.84	3874.00	136.84	60.20
305	0.00	4010.84	3873.00	137.84	60.64
306	0.00	4010.84	3874.00	136.84	60.20
307	0.00	4010.84	3873.00	137.84	60.64
308	0.00	4010.84	3874.00	136.84	60.20
309	0.00	4010.84	3873.00	137.84	60.64
310	0.00	4010.84	3874.00	136.84	60.20
311	0.00	4010.84	3873.00	137.84	60.64
312	0.00	4010.84	3874.00	136.84	60.20
313	0.00	4010.84	3873.00	137.84	60.64
314	0.00	4010.84	3874.00	136.84	60.20
315	0.00	4010.84	3873.00	137.84	60.64
316	0.00	4010.84	3874.00	136.84	60.20
317	0.00	4010.84	3873.00	137.84	60.64
318	0.00	4010.84	3874.00	136.84	60.20
319	0.00	4010.84	3873.00	137.84	60.64
320	0.00	4010.84	3874.00	136.84	60.20
321	0.00	4010.84	3873.00	137.84	60.64
322	0.00	4010.84	3874.00	136.84	60.20
323	0.00	4010.84	3873.00	137.84	60.64
324	0.00	4010.84	3874.00	136.84	60.20
325	0.00	4010.84	3873.00	137.84	60.64
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330	0.00	4010.84	3874.00	136.84	60.20
331	0.00	4010.84	3873.00	137.84	60.64
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334	0.00	4010.84	3874.00	136.84	60.20
335	0.00	4010.84	3873.00	137.84	60.64
336	0.00	4010.84	3874.00	136.84	60.20
337	0.00	4010.84	3873.00	137.84	60.64
338	0.00	4010.84	3874.00	136.84	60.20
339	0.00	4010.84	3873.00	137.84	60.64
340	0.00	4010.84	3874.00	136.84	60.20
341	0.00	4010.84	3873.00	137.84	60.64
342	0.00	4010.84	3874.00	136.84	60.20
343	0.00	4010.84	3873.00	137.84	60.64
344	0.00	4010.84	3874.00	136.84	60.20
345	0.00	4010.84	3873.00	137.84	60.64
346	0.00	4010.84	3874.00	136.84	60.20
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380	0.00	4010.84	3874.00	136.84	60.20
381	0.00	4010.84	3873.00	137.84	60.64
382	0.00	4010.84	3874.00	136.84	60.20
383	0.00	4010.84	3873.00	137.84	60.64
384	0.00	4010.84	3874.00	136.84	60.20
385	0.00	4010.84	3873.00	137.84	60.64
386	0.00	4010.84	3874.00	136.84	60.20

311		6.00	4033.25	3887.00	113.25	49.08
312		8.28	4033.96	3883.00	117.86	51.32
313		7.45	4033.13	3879.00	126.10	54.66
314		7.00	4034.68	3875.00	125.68	54.87
315		7.00	3999.88	3875.00	124.88	54.16
316		7.00	3999.95	3880.00	113.95	49.28
317		7.00	3999.99	3886.00	113.99	49.82
318		6.00	3999.97	3874.00	125.97	54.61
319		6.42	3999.15	3874.00	125.15	54.23
319		6.00	3999.16	3894.00	113.16	49.06
320		6.38	3999.93	3886.00	113.93	49.39
321		7.32	3998.87	3875.00	123.87	53.66
322		13.24	3998.87	3875.00	123.87	53.68
323		8.1.	3998.92	3886.00	112.91	48.93
324		17.02	3998.89	3585.00	113.89	48.92
325		16.89	3998.87	3575.00	123.87	53.58
326		4.26	3993.63	3930.00	93.63	40.68
327		8.51	3993.63	3910.00	83.63	36.26
328		6.26	3993.73	3910.00	83.73	36.29
329		10.64	4898.75	3915.00	101.75	79.63
330		20.64	4898.75	3915.00	183.75	79.63
331		17.02	4898.76	3965.00	153.76	66.63
332		8.00	3995.85	3985.00	26.85	11.41
333		0.00	3979.93	3968.00	11.93	5.16
334		0.00	4898.78	3958.00	140.78	60.97
335		0.00	4898.91	3965.00	133.91	66.64
336		0.00	4115.84	3950.00	153.84	66.39
337		437.11	4898.84	3995.00	143.84	62.26
338		0.35	3995.62	3968.00	19.62	8.38
339		0.00	4118.09	3979.00	139.09	59.66
340		0.00	4898.69	3971.00	133.69	57.82
341		0.00	4115.01	3990.00	125.01	52.51
342		0.00	4109.91	3980.00	119.91	51.76
343		0.00	4118.43	3995.00	120.43	52.10
344		5.85	4111.10	3980.00	121.10	52.51
345		5.32	4103.91	3995.00	108.91	46.26
346		2.10	4113.99	4009.00	104.99	45.36
347		0.00	4115.09	4005.00	107.09	46.79
348		24.77	4112.96	4007.00	105.96	45.91
349		42.73	4118.95	3995.00	122.96	53.28
350		84.48	4113.92	4021.00	90.91	39.40
351		3.82	4113.83	4031.00	81.83	35.46
352		2.43	4114.03	4033.00	81.03	35.11
353		3.18	4113.85	4027.00	91.85	39.58
354		44.31	4113.86	4038.00	80.86	34.99
355		4.86	4113.84	4049.00	78.84	34.14
356		0.00	4129.36	4040.00	89.36	38.69
357		0.00	4114.24	4030.00	84.24	36.50
358		0.00	4128.36	4063.00	62.36	27.02
359		329.46	4116.39	4058.00	85.39	36.99
360		0.00	4114.01	4035.00	79.01	34.58
361		0.42	4113.65	4033.00	80.65	34.95
362		0.00	4118.97	4038.00	80.97	35.12
363		0.00	4117.00	4059.00	58.29	25.27
364		0.00	4293.44	4100.00	191.44	82.93
365		0.00	4218.40	4130.00	110.40	47.84
366		4.26	4216.26	4108.00	108.26	46.89
367		10.64	4216.33	4138.00	108.33	46.94
368		3.19	4216.26	4113.00	103.26	44.74
369		10.64	4216.33	4117.00	99.33	43.04
370		8.51	4218.32	4130.00	88.32	38.27
371		9.58	4216.33	4138.00	88.33	38.28
372		14.97	4216.32	4138.00	78.31	33.94
373		18.64	4216.31	4158.00	60.31	26.13
374		14.97	4216.31	4158.00	58.31	25.27
375		3.19	4216.31	4138.00	78.31	33.94
376		6.38	4216.31	4138.00	78.31	33.93
377		8.13	4216.31	4158.00	60.31	26.13
378		12.77	4216.31	4140.00	78.31	33.97
379		18.14	4206.88	4183.00	10.90	44.83
380		12.14	4208.87	4192.00	87.87	38.94
381		96.31	4301.69	3979.00	133.69	57.92
382		2.99	4218.31	3978.00	138.31	59.96
383		0.00	4897.89	3978.00	136.89	59.10
384		0.00	4213.33	3972.00	139.33	60.39
385		0.00	4213.08	3976.00	137.08	59.39
386		0.00	4215.11	3976.00	139.11	60.85
387		0.00	4212.13	3978.00	134.13	58.12
388		0.00	4211.16	3979.00	132.16	57.57
389		0.00	4212.18	3978.00	137.18	59.46
390		0.00	4213.36	3978.00	137.36	59.47
391		0.00	4215.16	3973.00	139.16	60.33
392		0.00	4213.75	3980.00	133.75	57.93
393		0.00	4213.14	3980.00	133.14	57.69
394		0.00	4211.32	3980.00	131.32	56.92
395		0.00	4213.44	3978.00	134.44	58.28
396		0.00	4213.49	3988.00	125.49	54.38
397		0.00	4214.01	3987.00	127.01	55.04
398		0.00	4213.93	3989.00	124.93	54.15
399		0.00	4211.71	3989.00	124.71	54.06
400		0.00	4213.63	3989.00	124.63	54.02
401		0.00	4213.69	3994.00	119.69	51.89
402		0.00	4213.71	3994.00	119.71	51.88
403		0.00	4213.72	3994.00	119.72	51.81
404		0.00	4213.76	3994.00	119.76	51.46
405		0.00	4213.83	3995.00	118.83	51.49

521	0.00	4013.36	3843.00	130.36	56.49
522	0.00	3889.61	3881.99	6.41	2.78
523	0.00	3991.39	3964.10	29.10	10.92
524	0.00	4131.15	3964.10	105.05	61.39
525	0.00	4127.98	4089.00	18.00	7.83
526	0.00	3917.88	3892.70	27.10	11.78
600	3327.00	3992.78	3961.00	27.78	10.16
700	0.00	3979.50	3961.00	14.50	6.32
701	0.00	3993.00	3960.00	24.00	10.40

MAXIMUM AND MINIMUM VES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)
519	84.69
426	84.09
104	83.03
427	81.49
524	80.19

JUNCTION NUMBER	MINIMUM PRESSURE (psi)
522	3.78
111	5.16
330	5.58
700	6.32
304	7.83

KL / [illegible]

PIPE NUMBER	MAXIMUM KL/[illegible] (ft/sec)
818	63.30
446	36.88
111	29.78
167	28.33
389	26.0

PIPE NUMBER	MINIMUM KL/[illegible] (ft/sec)
131	0.00
456	0.00
523	0.00
450	0.00
539	0.00

REGULATING VALVE REPORT

RV LABEL	VALVE TYPE	POSITION NODE	CONTROLLED PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROUGH FLOW (gpm)
R1	PRV-1	364	647	4010.40	THROTTLED	4393.44	4010.40	331.67

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm)	NODE TITLE
AA	42	-1037.60	Tank 6142
BB	339	-1393.81	Tank 339
CC	69*	-1063.26	Tank 7396
DD	599	-1453.38	Tank 7986
EE	661	-1549.89	Tank 7261
FF	661	2853.83	Tank 7261
GG	624	-1296.28	Tank 7775
HH	816	-1317.95	Tank 693
II	83?	4446.87	Tank 1319
JJ	834	4606.86	Tank 1319
KK	826	488..69	Tank 3696, 91, 93
LL	93?	-1650.66	Tank 79824
MM	834	83. 86	Tank 79864

NET SYSTEM INFLOW = 10317.78
NET SYSTEM OUTFLOW = -10914.98
NET SYSTEM DEMAND = 7430.79

CHANGES FOR NEXT SIMULATION

DEMAND CHANGES

DEMAND TYPE = 1 - GDF = 1.700

PIPE PARAMETER CHANGES

STATUS CODE RX -CLOSED PIPE FN -FIXED GRADE NODE PU -PUMP LINE
CV -CHECK VALVE RV -REGULATING VALVE

PIPE NUMBER	NODE NOS P1	P2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF.	MINOR LOSS COEFF.	FRICTION (ft)
826-(GPM)	816	364	73.5	13.0	130.00	0.00	0.00

THE PUMP IDENTIFYING NUMBER (ID) = 5

239-XXPG	139	0	35.0	32.0	133.02	0.00	3994.00
816-XXPG	61	0	72.4	42.0	130.01	0.00	5991.00
831-PU	833	834	72.0	16.0	175.00	0.00	0.00

THE PUMP IDENTIFYING NUMBER (ID) = 42

818-PU	822	821	72.0	16.0	130.00	0.00	0.00

THE PUMP IDENTIFYING NUMBER (ID) = 11

838-XXPU	536	519	131.0	33.0	125.00	0.00	0.00

THE PUMP IDENTIFYING NUMBER (ID) = 8

S I M U L A T I O N R E S U L T S

THE RESULTS ARE OBTAINED AFTER 4 TRIALS WITH AN ACCURACY = 0.00001

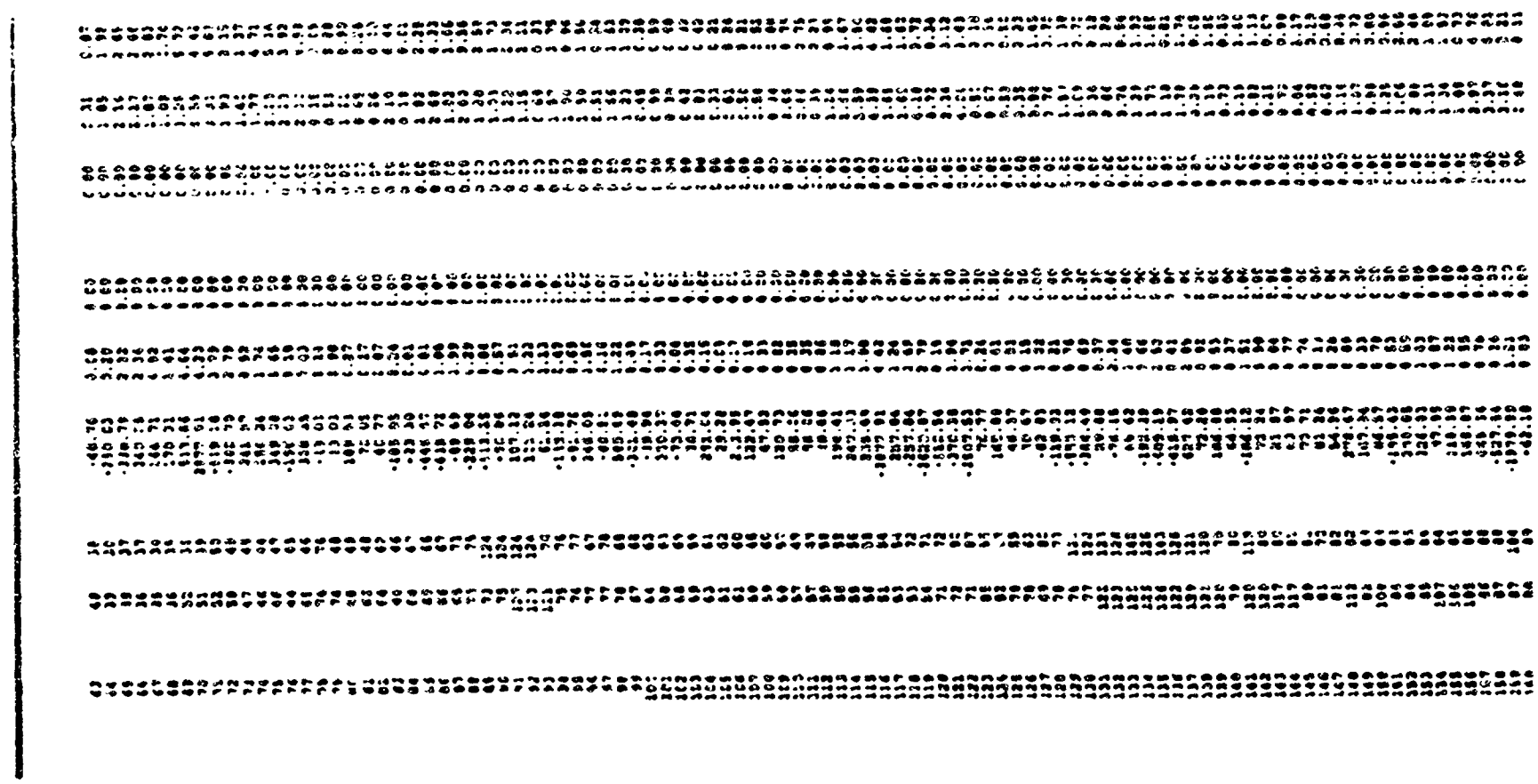
S I M U L A T I O N D E S C R I P T I O N (L A B E L)

Simulating Late Evening / Early Morning Hours
Assuming Tank 7775 is Full, Pumps 814, 815 are off
Tanks 123 and 443 are full

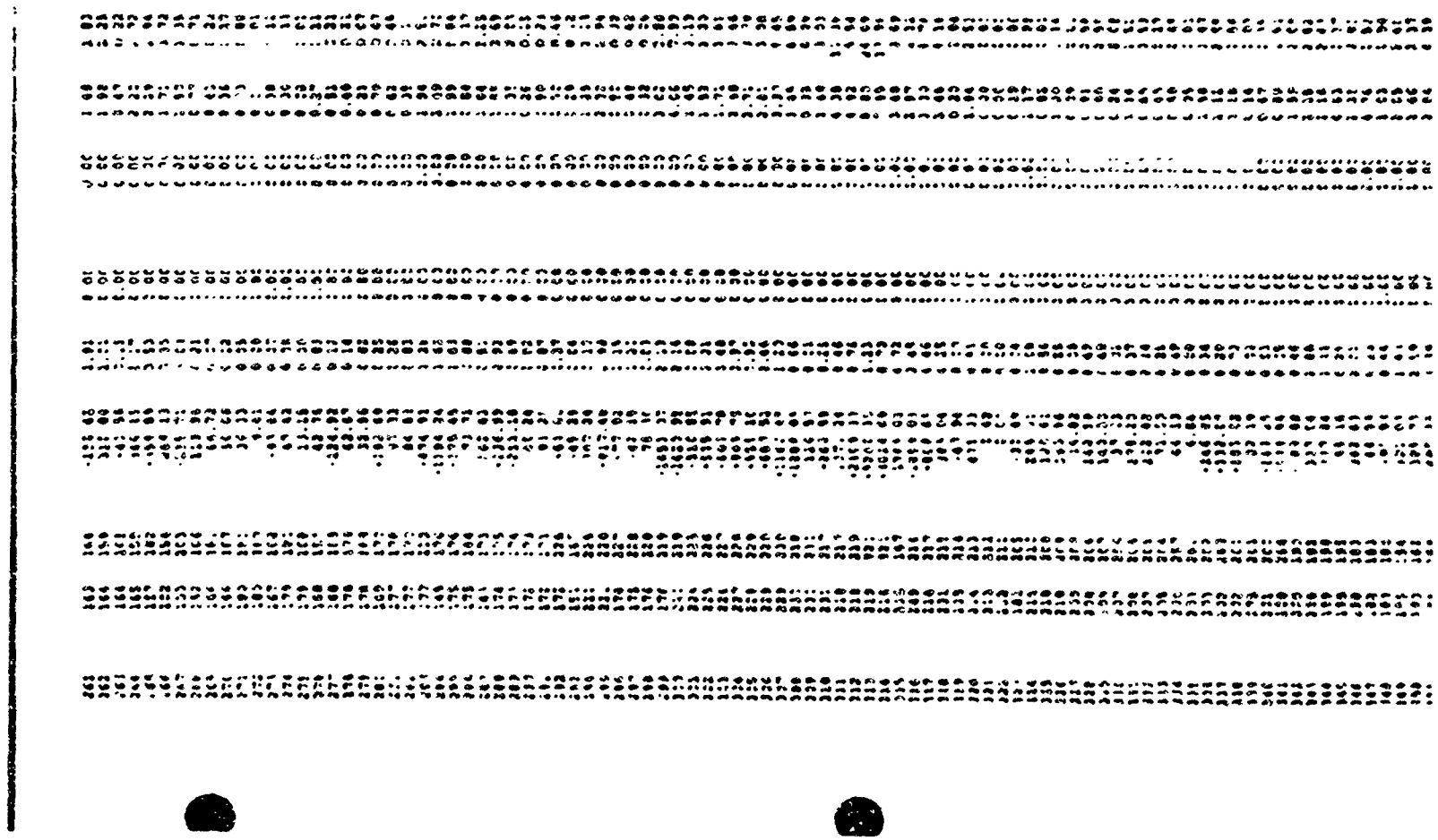
P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE FC -FIXED GRADE NODE PU -PUMP LINE
CV -CHECK VALVE RV -REGULATING VALVE TK -STORAGE TANK

PIPE NUMBER	NODE NO. 1	NODE NO. 2	FLOWRATE (gpm)	HEAD LOSS (ft)	PUMP HEAD (ft)	PUMP LABEL	MINOR LOSS (ft)	LINE VEL. (ft/sec)	REL. 100' (ft/ft)
1	1	2	37.41	0.04	1.00		0.00	0.23	0.04
2	2	3	36.93	0.24	1.00		0.00	0.38	0.12
3	3	4	7.78	0.01	1.00		0.00	0.09	0.01
4	4	5	-19.42	0.04	1.00		0.00	0.22	0.02
5	4	6	-32.22	0.20	1.00		0.00	0.36	0.10
6	3	5	41.15	0.16	1.00		0.00	0.47	0.08
7	6	7	-101.19	0.29	1.00		0.00	1.15	0.15
8	8	9	18.41	0.01	1.00		0.00	0.10	0.04
9	9	3	-3.71	0.00	1.00		0.00	0.02	0.00
10	10	8	10.29	0.03	1.00		0.00	0.16	0.06
11	11	1	18.22	0.03	1.00		0.00	0.21	0.09
12	11	21	-13.91	0.05	1.00		0.00	0.13	0.05
13	12	9	32.03	0.08	1.00		0.00	0.26	0.13
14	8	9	-31.26	0.04	1.00		0.00	0.15	0.13
15	8	9	-71.89	0.06	1.00		0.00	0.41	0.48
16	9	10	-69.42	0.05	1.00		0.00	0.39	0.37
17	21	10	101.65	0.13	1.00		0.00	1.15	1.16
18	10	19	23.21	0.00	1.00		0.00	0.26	0.07
19	19	9	189.58	0.01	1.00		0.00	1.25	1.30
20	24	19	89.40	0.10	1.00		0.00	1.01	1.67
21	17	25	-114.88	0.03	1.00		0.00	0.74	0.14
22	17	16	115.88	0.09	1.00		0.00	0.76	0.21
23	26	16	62.90	0.04	1.00		0.00	0.53	0.06
24	16	15	190.05	1.30	1.00		0.00	1.27	1.01
25	15	14	-80.20	0.07	1.00		0.00	0.57	0.10
26	14	9	-81.35	0.08	1.00		0.00	0.53	0.15
27	27	15	-286.86	0.01	1.00		0.00	0.71	0.25
28	28	14	-89.00	0.11	1.00		0.00	0.51	0.16
29	27	28	-46.53	0.02	1.00		0.00	0.63	0.20
30	30	13	-88.72	0.26	1.00		0.00	0.57	0.18
31	15	16	86.44	0.06	1.00		0.00	0.55	0.17
32	32	11	35.72	0.13	1.00		0.00	0.61	0.31
33	13	13	-19.53	0.13	1.00		0.00	0.12	0.11
34	34	12	97.06	0.24	1.00		0.00	0.65	0.72
35	31	34	-167.03	0.19	1.00		0.00	1.13	0.34
36	33	31	68.45	0.25	1.00		0.00	0.78	0.42
37	33	32	36.08	0.01	1.00		0.00	0.49	0.22
38	38	38	10.01	0.00	1.00		0.00	0.11	0.01
39	39	32	-30.67	0.21	1.00		0.00	0.21	0.09
40	37	36	333.16	0.58	1.00		0.00	2.22	0.31
41	38	39	-112.39	0.13	1.00		0.00	1.57	1.39
42-P3	41	AA	3633.37	1.26	6.00		0.00	5.73	6.71
43	41	36	-435.03	0.28	0.00		0.00	1.84	0.54
44	43	28	-93.69	1.87	0.00		0.00	1.06	1.81
45	26	29	176.58	0.80	0.00		0.00	0.72	0.48
46	25	26	-367.26	0.24	0.00		0.00	1.51	0.49
47	24	23	-269.46	0.73	0.00		0.00	1.08	0.81
48	23	30	61.35	0.04	0.00		0.00	0.26	0.11
49	23	31	26.03	0.15	0.00		0.00	0.61	0.19
50	32	21	69.35	0.20	0.00		0.00	0.76	0.57
51	22	21	31.05	0.00	0.00		0.00	0.35	0.00
52	21	42	-333.45	2.43	0.00		0.00	1.41	1.26
53	23	41	63.81	0.46	0.00		0.00	0.65	0.45
54	42	24	175.51	2.27	0.00		0.00	1.11	0.78
55	22	39	-1117.94	2.64	0.00		0.00	1.05	0.29
56	40	41	188.55	0.13	0.00		0.00	1.20	0.85
57	40	42	277.80	0.31	0.00		0.00	1.11	0.69
58	43	40	-58.69	0.11	0.00		0.00	0.53	0.38
59	22	41	-138.43	0.61	0.00		0.00	1.30	1.00
0	44	43	190.77	4.43	0.00		0.00	1.16	0.81



162	161	81	811.31	7.58	0.00	0.00	1.99	7.26		
163	89	81	-132.99	2.93	0.00	0.00	1.39	5.64		
164	96	9.	386.12	3.74	0.00	0.00	3.48	3.48		
165	97	161	-784.35	2.26	0.00	0.00	1.66	6.84		
166	91	91	224.47	1.27	0.00	0.00	1.53	3.34		
167	95	92	409.44	27.47	0.00	0.00	4.65	29.03		
168	93	92	847.03	28.39	0.00	0.00	6.21	21.99		
169	91	94	-186.65	2.93	0.00	0.00	2.11	3.56		
170	91	162	-371.72	5.46	0.00	0.00	4.26	13.91		
171	94	169	-624.68	6.83	0.00	0.00	4.18	8.96		
172	94	90	468.62	3.65	0.00	0.00	2.99	4.83		
173	95	150	-278.16	3.46	0.00	0.00	1.78	2.84		
174	96	98	-133.52	0.29	0.00	0.00	0.89	0.91		
175	97	157	-269.26	1.62	0.00	0.00	1.65	1.41		
176	97	98	1838.63	0.94	0.00	0.00	6.63	22.04		
177	98	163	1375.30	0.90	0.00	0.00	5.87	5.32		
178	98	94	-474.46	3.74	0.00	0.00	3.34	4.98		
179	192	99	135.81	1.38	0.00	0.00	1.42	1.76		
180	99	184	-96.96	0.96	0.00	0.00	0.39	0.87		
181	99	178	-267.35	2.61	0.00	0.00	1.71	1.71		
182	180	115	-139.84	2.17	0.00	0.00	0.97	2.65		
183	181	178	137.42	2.11	0.00	0.00	1.95	2.02		
184	101	182	285.83	0.26	0.00	0.00	0.80	0.42		
185	181	183	-261.87	3.28	0.00	0.00	1.68	1.66		
186	183	124	1024.68	0.45	0.00	0.00	2.22	1.66		
187	185	126	916.38	0.16	0.00	0.00	1.91	1.89		
188	181	118	-2316.96	3.04	0.00	0.00	5.32	3.87		
189	188	139	-90.36	1.94	0.00	0.00	0.63	1.71		
190	139	182	-212.39	3.78	0.00	0.00	0.36	1.11		
191	187	186	68.78	1.06	0.00	0.00	0.39	0.83		
192	138	138	128.23	0.14	0.00	0.00	0.76	0.93		
193	135	187	76.36	1.13	0.00	0.00	0.66	1.26		
194	138	137	43.19	0.63	0.00	0.00	0.38	0.36		
195	189	187	113.66	0.25	0.00	0.00	0.72	0.64		
196	137	188	60.75	3.75	0.00	0.00	0.69	0.82		
197	189	188	169.66	1.26	0.00	0.00	1.04	1.86		
198	136	137	21.36	0.33	0.00	0.00	0.33	0.81		
199	136	189	48.65	0.96	0.00	0.00	0.38	0.94		
200	189	190	-121.76	0.19	0.00	0.00	0.78	0.73		
201	138	138	69.01	0.03	0.00	0.00	0.60	0.24		
202	138	190	4.18	0.37	0.00	0.00	0.07	0.43		
203	191	191	-61.63	0.09	0.00	0.00	0.82	0.14		
204	134	135	111.64	0.67	0.00	0.00	0.46	0.17		
205	134	131	171.61	0.25	0.00	0.00	0.73	0.38		
206	132	131	-271.05	0.08	0.00	0.00	0.16	0.05		
207	132	116	-1128.35	2.62	0.00	0.00	2.35	1.61		
208	131	133	-162.97	0.45	0.00	0.00	1.33	1.71		
209	134	133	-281.05	0.40	0.00	0.00	1.15	0.96		
210	133	132	91.26	0.10	0.00	0.00	0.83	0.11		
211	133	134	-174.26	0.11	0.00	0.00	1.11	1.62		
212	134	132	-.10.69	0.00	0.00	0.00	0.26	0.09		
213	132	133	101.67	0.39	0.00	0.00	1.15	1.92		
214	132	169	-819.78	0.96	0.00	0.00	1.40	0.18		
215	133	131	-131.46	0.10	0.00	0.00	0.78	0.73		
216	115	116	336.98	0.10	0.00	0.00	0.87	0.08		
217	131	115	-.4.15	0.00	0.00	0.00	0.37	0.01		
218	130	131	114.01	0.36	0.00	0.00	0.76	0.47		
219	130	116	11.38	0.33	0.00	0.00	0.34	0.33		
220	116	115	169.61	0.15	0.00	0.00	0.94	0.04		
221	130	168	-453.19	0.97	0.00	0.00	0.98	0.33		
222	116	117	98.96	0.96	0.00	0.00	1.02	1.76		
223	116	118	-257.61	1.47	0.00	0.00	1.32	1.96		
224	119	167	-1307.53	3.93	0.00	0.00	3.73	2.11		
225	119	166	-915.20	2.96	0.00	0.00	1.37	2.15		
226	119	119	28.74	0.06	0.00	0.00	0.38	0.05		
227	139	141	-764.19	3.78	0.00	0.00	3.17	2.91		
228	140	139	-135.29	0.61	0.00	0.00	0.30	0.19		
229	KEPG	138	BB							
230	138	137	63.67	0.39	0.00	0.00	0.33	0.08		
231	137	161	-99.61	0.82	0.00	0.00	0.65	0.74		
232	140	141	-.79.62	0.32	0.00	0.00	0.90	1.38		
233	140	223	-.144.62	0.46	0.00	0.00	0.66	0.28		
234	223	226	-.140.14	0.19	0.00	0.00	0.61	0.25		
235	224	222	-.319.74	0.10	0.00	0.00	1.39	1.36		
236	223	171	170.93	0.28	0.00	0.00	0.70	0.39		
237	171	141	284.71	0.32	0.00	0.00	1.04	3.0.		
238	222	221	-.819.24	0.07	0.00	0.00	1.65	1.19		
239	141	143	133.95	0.11	0.00	0.00	0.67	0.10		
240	143	144	-.343.37	0.26	0.00	0.00	1.39	4.90		
241	144	168	-.274.68	0.09	0.00	0.00	1.75	0.25		
242	145	146	193.04	0.47	0.00	0.00	0.98	1.12		
243	145	147	-.62.24	0.01	0.00	0.00	0.40	0.31		
244	147	148	394.29	0.25	0.00	0.00	2.93	0.93		
245	148	170	137.86	0.03	0.00	0.00	0.44	0.16		
246	148	149	129.29	0.03	0.00	0.00	0.83	0.03		
247	149	169	99.91	0.15	0.00	0.00	0.84	0.15		
248	149	150	.6.48	0.00	0.00	0.00	0.04	0.01		
249	150	151	48.49	0.05	0.00	0.00	0.31	0.13		
250	151	152	82.05	0.16	0.00	0.00	0.42	0.40		
251	153	154	-.34.75	0.03	0.00	0.00	0.38	0.04		
252	154	155	226.17	0.20	0.00	0.00	1.57	0.59		
253	155	156	91.99	0.08	0.00	0.00	0.68	0.33		
254	156	157	1.74	0.07	0.00	0.00	0.01	0.01		
255	157	158	-.3.78	0.01	0.00	0.00	0.01	0.01		
256	158	159	-.18.95	0.01	0.00	0.00	0.12	0.02		
257	159	161	-414.27	0.38	0.00	0.00	2.44	3.08		
258	161	162	-737.64	0.46	0.00	0.00	4.70	31.16		
259	161	182	378.48	0.35	0.00	0.00	1.78	1.84		



360	189	189	-136.39	0.26	0.00	0.01	0.48	0.57
361	189	191	-149.83	0.81	0.00	0.01	0.95	1.07
362	190	191	88.97	1.14	0.00	0.01	1.03	1.03
363	191	192	9.16	0.88	0.00	0.01	0.86	0.87
364	192	193	-1920.30	1.87	0.00	0.01	1.17	2.05
365	193	194	-374.19	1.35	0.00	0.01	2.63	3.21
366	194	195	957.28	0.90	0.00	0.01	1.59	0.72
367	195	193	-292.89	0.31	0.00	0.01	0.61	0.12
368	196	193	1815.19	0.47	0.00	0.01	2.78	3.04
369	196	197	337.02	0.83	0.00	0.01	1.52	2.52
370	197	196	1549.65	0.25	0.00	0.01	3.23	3.69
371	197	196	-441.93	0.65	0.00	0.01	0.92	0.26
372	197	195	1216.03	0.12	0.00	0.01	1.56	0.97
373	198	199	2762.68	0.27	0.00	0.01	4.41	4.92
374	198	427	-4582.87	0.89	0.00	0.01	4.68	3.89
375	199	200	79.98	0.86	0.00	0.01	0.91	0.74
376	199	199	385.16	0.25	0.00	0.01	0.95	0.18
377	200	201	-165.83	0.81	0.00	0.01	0.46	0.21
378	201	201	1388.90	0.61	0.00	0.01	1.68	0.74
379	201	219	723.43	0.25	0.00	0.01	1.15	0.37
380	219	199	967.61	1.24	0.00	0.01	1.25	0.61
381	219	218	-44.38	0.01	0.00	0.01	0.69	0.00
382	217	217	-94.87	0.03	0.00	0.01	0.26	0.00
383	217	216	-97.87	0.29	0.00	0.01	0.28	0.29
384	279	217	12.65	0.23	0.00	0.01	0.37	0.26
385	217	218	-18.23	0.02	0.00	0.01	0.21	0.05
386	218	218	18.22	0.01	0.00	0.01	0.12	0.02
387	218	219	-22.58	0.00	0.00	0.02	0.28	0.00
388	219	219	-215.61	0.03	0.00	0.03	0.16	0.05
389	219	246	-98.68	0.07	0.00	0.03	0.40	0.08
390	201	276	167.17	0.39	0.00	0.03	0.68	0.38
391	277	276	-87.69	0.28	0.00	0.03	0.56	0.40
392	277	219	201.65	0.66	0.00	0.03	0.29	0.95
393	247	218	339.03	1.93	0.00	0.03	1.79	0.78
394	258	246	10.69	0.06	0.00	0.03	0.16	0.06
395	277	280	-61.63	0.98	0.00	0.03	0.70	0.05
396	281	278	20.03	0.11	0.00	0.03	0.19	0.08
397	281	281	-88.15	0.89	0.00	0.03	0.68	0.14
398	282	278	46.47	0.02	0.00	0.03	0.83	0.00
399	281	276	-281.45	0.68	0.00	0.03	1.07	0.04
400	278	283	88.95	0.03	0.00	0.03	0.30	0.03
401	282	286	53.66	0.09	0.00	0.03	0.54	0.15
402	283	282	-46.17	0.22	0.00	0.03	0.73	0.01
403	278	299	89.40	0.16	0.00	0.03	0.53	0.00
404	282	281	-8.42	0.01	0.00	0.03	0.10	0.01
405	287	278	-65.73	0.49	0.00	0.03	0.62	0.79
406	276	271	-262.05	0.03	0.00	0.03	0.67	0.38
407	273	297	-285.61	0.05	0.00	0.03	0.76	0.04
408	272	271	-43.38	0.29	0.00	0.03	0.49	0.04
409	271	288	-25.77	0.15	0.00	0.03	0.39	0.57
410	272	270	-36.89	0.18	0.00	0.03	0.41	0.31
411	268	269	-11.06	0.03	0.00	0.03	0.11	0.03
412	272	269	-1.66	0.01	0.00	0.03	0.02	0.00
413	269	485	-21.75	0.06	0.00	0.03	0.27	0.00
414	486	485	-45.76	0.16	0.00	0.03	0.48	0.01
415	483	398	-44.71	0.08	0.00	0.03	0.28	0.06
416	482	269	-19.84	0.02	0.00	0.03	0.12	0.01
417	398	270	94.95	0.14	0.00	0.03	0.53	0.07
418	398	389	85.39	0.10	0.00	0.03	0.62	0.09
419	397	398	374.15	0.68	0.00	0.03	0.72	0.05
420	396	271	-18.47	0.06	0.00	0.03	0.21	0.00
421	272	394	-12.76	0.02	0.00	0.03	0.16	0.03
422	394	396	-37.05	0.33	0.00	0.03	0.43	0.24
423	394	399	-37.31	0.10	0.00	0.03	0.48	0.32
424	399	402	-8.35	0.02	0.00	0.03	0.10	0.02
425	402	404	-16.13	0.02	0.00	0.03	0.18	0.00
426	405	404	-24.86	0.03	0.00	0.03	0.28	0.00
427	404	402	-24.96	0.02	0.00	0.03	0.16	0.00
428	401	402	-17.71	0.03	0.00	0.03	0.22	0.00
429	405	401	-41.70	0.04	0.00	0.03	0.27	0.10
430	403	399	-27.24	0.08	0.00	0.03	0.31	0.19
431	403	396	68.94	0.13	0.00	0.03	0.44	0.28
432	398	396	-17.92	0.06	0.00	0.03	0.27	0.03
433	398	393	86.86	0.35	0.00	0.03	0.59	0.36
434	395	394	-26.09	0.09	0.00	0.03	0.29	0.16
435	393	392	223.94	0.76	0.00	0.03	0.91	0.61
436	388	390	-82.35	0.03	0.00	0.03	0.33	0.11
437	389	392	-111.01	0.03	0.00	0.03	0.31	0.03
438	385	386	-46.84	0.03	0.00	0.03	0.03	0.39
439	386	389	-48.[illegible]	0.03	0.00	0.03	0.33	0.33
440	386	387	-4.[illegible]	0.00	0.00	0.03	0.18	0.03
441	384	386	13.[illegible]	0.02	0.00	0.03	0.18	0.04
442	384	381	-13.37	0.03	0.00	0.03	0.48	0.02
443	381	389	-15.89	0.03	0.00	0.03	0.19	0.03
444	389	388	4.83	0.02	0.00	0.03	0.16	0.02
445	385	388	-4.83	0.03	0.00	0.04	0.18	0.03
446	389	390	-46.85	0.06	0.00	0.01	0.45	0.36
447	381	381	-18.47	0.09	0.00	0.01	0.37	0.19
448	385	390	7.96	0.01	0.00	0.01	0.08	0.00
449	384	385	32.46	0.08	0.00	0.01	0.33	0.01
450	383	384	311.97	0.39	0.00	0.01	1.26	0.56

490	332	337	-25.88	0.14	0.00	0.00	0.26	0.13
491	338	337	-21.04	0.00	0.00	0.00	0.23	0.10
492	337	339	-46.33	0.53	0.00	0.00	0.55	0.24
493	338	338	51.83	0.58	0.00	0.00	0.58	0.29
494	338	341	68.61	0.15	0.00	0.00	0.76	0.37
495	341	342	-14.28	0.04	0.00	0.00	0.14	0.36
496	343	346	-23.16	0.08	0.00	0.00	0.26	0.16
497	345	346	-31.01	0.11	0.00	0.00	0.35	0.26
498	347	345	-91.47	0.46	0.00	0.00	1.05	0.57
499	347	348	91.05	0.98	0.00	0.00	0.95	0.26
500	345	343	-61.87	0.06	0.00	0.00	0.79	0.46
501	343	341	-38.75	0.06	0.00	0.00	0.44	0.19
502	341	340	42.10	0.11	0.00	0.00	0.48	0.42
503	345	340	-191.52	0.33	0.00	0.00	0.78	0.29
504	345	348	232.69	0.83	0.00	0.00	0.95	0.60
505	348	348	324.67	4.63	0.00	0.00	2.07	4.49
506	347	349	324.57	1.71	0.00	0.00	2.07	2.46
507	351	351	-192.32	0.22	0.00	0.00	2.18	1.76
508	351	469	3141.84	7.82	0.00	0.00	8.95	38.74
509	353	349	-2614.86	33.78	0.00	0.00	5.47	7.10
510	347	326	-10.31	0.03	0.00	0.00	0.12	0.02
511	326	326	-12.46	0.03	0.00	0.00	0.14	0.02
512	328	327	-23.95	0.09	0.00	0.00	0.26	0.07
513	327	329	-41.33	0.25	0.00	0.00	0.46	0.21
514	328	329	-3.82	0.00	0.00	0.00	0.01	0.00
515	327	326	-4.12	0.01	0.00	0.00	0.05	0.01
516	326	325	9.09	0.05	0.00	0.00	0.11	0.03
517	325	328	22.43	0.07	0.00	0.00	0.25	0.13
518	328	331	25.78	0.14	0.00	0.00	0.26	0.11
519	331	329	66.69	0.70	0.00	0.00	0.76	0.47
520	331	332	-50.27	0.26	0.00	0.00	0.57	0.57
521	331	332	338.18	1.82	0.00	0.00	3.59	1.39
522	332	333	376.31	1.02	0.00	0.00	3.13	3.52
523	338	334	-1648.65	9.05	0.00	0.00	3.94	9.36
524	346	347	-44.41	0.22	0.00	0.01	0.51	0.39
525	346	345	95.55	0.10	0.00	0.01	0.76	0.17
526	343	339	358.63	3.54	0.00	0.01	3.47	3.80
527	336	335	-148.42	0.33	0.00	0.01	1.48	0.33
528	336	336	-428.93	0.82	0.00	0.01	3.76	2.01
529	339	336	-267.97	0.01	0.00	0.00	2.32	1.91
530	339	340	837.32	0.88	0.00	0.01	3.36	2.09
531	340	347	934.16	3.75	0.00	0.01	3.95	4.10
532	351	347	-945.78	0.98	0.00	0.01	3.73	3.26
533	348	351	-199.99	1.43	0.00	0.01	3.22	1.18
534	349	352	-169.76	0.87	0.00	0.01	1.96	0.37
535	346	353	-268.23	0.88	0.00	0.01	1.65	0.13
536	349	354	-338.78	0.69	0.00	0.00	1.94	0.43
537	348	347	-333.87	0.73	0.00	0.00	1.89	0.80
538	351	350	-148.28	0.93	0.00	0.00	1.59	0.89
539	352	351	17.65	0.01	0.00	0.00	0.19	0.06
540	350	350	4.12	0.04	0.00	0.00	0.07	0.01
541	354	353	-39.04	0.06	0.00	0.00	0.49	0.30
542	353	350	-71.31	0.19	0.00	0.00	0.81	0.35
543	350	349	-220.04	0.21	0.00	0.00	1.30	1.65
544	354	349	338.04	0.76	0.00	0.00	1.38	2.04
545	348	348	-122.96	0.63	0.00	0.00	1.46	0.82
546	348	349	-111.38	0.63	0.00	0.01	1.29	0.68
547	348	349	-88.95	0.43	0.00	0.01	1.03	0.93
548	348	345	-29.48	0.06	0.00	0.01	0.71	0.59
549	351	354	1143.18	8.18	0.00	0.01	3.82	1.35
550	354	354	-722.42	0.33	0.00	0.01	2.87	0.35
551	350	345	-428.38	3.78	0.00	0.01	3.72	0.62
552	348	344	-863.91	3.67	0.00	0.01	3.83	2.66
553	344	343	-699.48	0.54	0.00	0.01	2.81	2.76
554	343	343	-322.18	0.82	0.00	0.01	1.98	0.32
555	342	341	-86.25	0.07	0.00	0.01	0.83	0.37
556	341	340	1.67	0.00	0.00	0.01	0.01	0.01
557	340	335	-784.48	3.01	0.00	0.01	2.45	3.35
558	332	329	-838.78	5.38	0.00	0.01	3.65	4.99
559	328	326	-195.66	0.91	0.00	0.01	1.25	1.24
560	336	335	-349.18	0.79	0.00	0.00	2.23	2.09
561	334	333	236.19	0.76	0.00	0.00	1.52	1.34
562	343	337	-227.38	1.21	0.00	0.01	1.48	1.28
563	343	333	-193.08	0.97	0.00	0.01	1.29	1.19
564	331	331	126.42	0.11	0.00	0.00	1.01	0.63
565	344	335	-496.69	1.78	0.00	0.01	3.06	2.33
566	338	339	-333.36	6.09	0.00	0.01	1.16	1.16
567	335	337	-930.86	35.72	0.00	0.01	3.76	8.36
568	334	333	-971.33	4.86	0.00	0.01	3.97	3.49
569	338	342	874.28	3.89	0.00	0.01	3.49	9.01
570	336	338	-1137.64	1.44	0.00	0.01	1.46	2.03
571	332	338	-939.18	3.76	0.00	0.01	4.49	12.96
572	336	337	-8.91	0.03	0.00	0.01	0.04	0.02
573	338	337	-932.81	1.81	0.00	0.00	4.66	14.73
574	338	338	1157.55	9.26	0.00	0.00	1.05	1.64
575	339	338	48.41	0.38	0.00	0.00	1.71	0.47
576	339	338	-78.03	0.16	0.00	0.00	0.20	0.38
577	338	338	88.39	0.44	0.00	0.00	0.18	0.21
578	336	336	-1346.57	1.12	0.00	0.00	1.86	2.16
579	333	338	-899.06	19.73	0.00	0.00	3.98	9.89
580	338	338	-177.1	1.38	0.00	0.00	2.81	2.25
581	338	338	-78.69	0.16	0.00	0.00	0.45	0.18

609	329	330	-3.68	0.00	0.00		0.00	1.04	1.04
610	330	303	-6.82	0.00	0.00		0.00	1.08	1.08
611	303	304	-8.73	0.00	0.00		0.00	1.09	1.09
612	330	305	-1.36	0.00	0.00		0.00	1.02	1.02
613	329	306	-3.67	0.00	0.00		0.00	1.04	1.04
614	301	307	-6.73	0.00	0.00		0.00	1.07	1.07
615	332	311	-10.13	0.00	0.00		0.00	1.11	1.11
616	311	310	-21.19	0.00	0.00		0.00	1.20	1.20
617-PF	332	PF	-2858.79	0.00	0.00		0.00	3.67	4.00
618	311	312	-331.18	0.00	0.00		0.00	1.02	3.67
619-PG	333	PG	-3786.82	0.00	0.00		0.00	3.32	29.33
620-RR	297	349							
621	333	319	-936.96	0.00	0.00		0.00	1.21	0.36
622	320	297	-936.96	0.00	0.00		0.00	1.21	0.36
623	337	336	-146.42	1.00	6.00		0.00	1.01	4.33
624	336	335	-41.74	0.00	0.00		0.00	1.00	3.00
625	335	337	39.65	0.00	0.00		0.00	0.00	3.37
626	338	336	-130.62	1.76	0.00		0.00	1.00	3.38
627	336	349	-270.15	23.89	0.00		0.00	3.13	19.91
628	337	339	-310.03	0.00	0.00		0.00	3.02	16.79
629-XY	338	347							
630	340	339	191.02	0.00	0.00		0.00	1.76	4.66
631	339	342	-191.02	0.00	0.00		0.00	1.76	4.66
632	340	341	-191.02	0.00	0.00		0.00	1.76	4.66
633	341	343	-210.02	0.00	0.00		0.00	1.90	4.13
634	341	342	191.02	0.00	0.00		0.00	1.76	4.66
635	341	344	-113.04	0.00	0.00		0.00	1.20	0.89
636-RR	344	345							
637	346	345	2013.47	0.00	0.00		0.00	2.92	10.60
638	345	336	2009.35	33.61	0.00		0.00	2.91	12.63
639	344	346	-116.96	0.00	0.00		0.00	1.20	0.86
640	340	347	-47.98	0.00	0.00		0.00	0.76	0.19
641	343	348	-196.98	0.00	0.00		0.00	1.20	0.23
642	347	348	40.98	0.00	0.00		0.00	0.76	0.19
643	348	349	0.48	0.00	0.00		0.00	0.00	0.00
644	349	350	-318.36	0.00	0.00		0.00	1.32	1.33
645	348	351	-171.95	0.00	0.00		0.00	1.19	1.37
646	351	352	-95.19	0.00	0.00		0.00	0.00	0.10
647	351	353	-98.82	0.00	0.00		0.00	0.00	0.00
648	352	353	73.81	0.00	0.00		0.00	0.00	0.10
649	351	354	65.73	0.00	0.00		0.00	0.00	0.00
650	348	354	-161.98	0.00	0.00		0.00	1.20	1.26
651	350	355	-117.16	0.00	0.00		0.00	0.00	0.00
652	355	357	-141.62	0.00	0.00		0.00	0.00	0.37
653	357	359	-5.46	0.00	0.00		0.00	0.31	0.00
654	353	357	-172.65	0.00	0.00		0.00	1.10	1.40
655	359	360	5.11	0.00	0.00		0.00	0.23	0.00
656	360	330	476.04	0.00	0.00		0.00	0.00	0.00
657	360	361	-176.29	0.00	0.00		0.00	1.13	1.65
658	361	362	-176.91	0.00	0.00		0.00	1.13	1.06
659-RR	361	363							
660	359	362	-438.96	0.00	0.00		0.00	1.74	1.06
661	359	350	-4118.78	0.00	0.00		0.00	6.72	18.70
662	358	356	-3844.31	0.00	0.00		0.00	6.91	15.63
663-PG	358	PG	3649.69	0.00	0.00		0.00	6.73	7.02
664-PG	363	PF	-402.16	0.00	0.00		0.00	3.46	3.02
665	363	362	402.16	0.00	0.00		0.00	3.46	3.02
666	363	365	0.00	0.00	0.00		0.00	0.00	0.00
667-RV	364	365	131.49	0.00	0.00		0.00	0.33	0.00
668	364	376	-131.49	0.00	0.00		0.00	0.33	0.00
669	365	366	131.49	0.00	0.00		0.00	0.33	0.00
670	366	368	41.56	0.00	0.00		0.00	0.26	0.11
671	366	367	18.16	0.00	0.00		0.00	0.21	0.00
672	367	364	9.83	0.00	0.00		0.00	0.04	0.00
673	369	368	-10.88	0.00	0.00		0.00	0.16	0.00
674	369	370	9.76	0.00	0.00		0.00	0.11	0.00
675	370	371	-8.23	0.00	0.00		0.00	0.07	0.00
676	370	372	0.48	0.00	0.00		0.00	0.11	0.00
677	370	376	-5.61	0.00	0.00		0.00	0.02	0.00
678	296	297	0.32	0.00	0.00		0.00	0.00	0.00
679	377	376	2.17	0.00	0.00		0.00	0.03	0.00
680	377	373	1.87	0.00	0.00		0.00	0.01	0.00
681	376	375	-13.27	0.00	0.00		0.00	0.00	0.01
682	379	374	10.83	0.00	0.00		0.00	0.06	0.00
683	378	372	-.56	0.00	0.00		0.00	0.10	0.02
684	376	373	3.06	0.00	0.00		0.00	0.04	0.00
685	373	372	-5.91	0.00	0.00		0.00	0.06	0.01
686	372	371	85.17	0.00	0.00		0.00	0.23	0.03
687	371	368	-72.88	0.00	0.00		0.00	0.11	0.06
688	378	380	-122.61	0.00	0.00		0.00	0.19	0.05
689-PG	380	PG	-1135.76	0.00	0.00		0.00	0.16	0.00
690	428	519	-4540.69	1.00	0.00		0.00	4.69	3.00
518-XXPG	61	XX							
519-PG	522	523	1819.86	0.17	119.96	P1	0.00	2.58	3.00
520-PG	523	521	7245.17	2.78	136.13	P2	0.00	11.56	32.77
521-PG	522	PP	-4619.69	0.54	0.00		0.00	4.63	0.41
522-PG	523	PP	-3622.39	0.56	0.00		0.00	4.63	0.45
521	522	521	2540.47	0.92	0.00		0.00	4.36	0.00
522-XXPG	523	524							
523-PG	523	524	3093.47	0.31	148.31	P4	0.00	4.36	0.00
524-XXPG	524	364							
525-PG	525	364							

900	699	700	1016.78	10.78	3 00	0 00	3 99	3.88
910-PG	700	LL	1016.75	5 12	5 00	0 00	3 99	0 88
911-XX	998	700						
912-XX	700	333						
913-XX	701	333						
914-PG	701	NN	-233 49	3 00	3 00	0 00	0 49	0 13

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEPTH (m)	INTERNAL GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		1 84	3993.97	3988 00	91 97	39.85
2		1 84	3993 97	3982 00	91 97	39.83
3		21 82	3993.69	3900 00	93 69	40.60
4		97 46	3993.68	3895.00	93.68	40.59
5		36.36	3991.72	3897 00	91 72	41 31
6		29 79	3993.68	3900 00	93.68	40.60
7		5 92	3994 27	3897 00	97.27	42.15
8		23 41	3993.73	3890 00	91 73	41 60
9		1 46	3993.69	3888 00	91 69	41 44
10		2 94	3993 94	3888 00	93.94	40 71
11		3 34	3993.96	3887 00	91.99	39 70
12		5.53	3994 09	3887 00	97.09	39.74
13		3 97	3994.00	3890 00	94 00	40.73
14		1.46	3993.64	3888 00	91 64	41 44
15		1 97	3993.63	3888.00	91.63	41 44
16		1 42	3998.10	3895 00	103.10	43.38
17		2.02	3998.16	3895 00	103 10	43 41
18		3.00	3994.62	3897 00	97.62	42 30
19		2.66	3994.79	3897 00	97.78	42.37
20		5.32	3996.11	3895 00	101.11	43 85
21		3.72	3996.05	3895.00	101.05	43.79
22		2.17	3996.33	3893.00	103.33	44 78
23		3 76	3996.24	3895.00	101.24	43.87
24		64.11	3995.91	3895.00	100.91	43.86
25		14.77	3995.29	3895 00	100.29	43 60
26		3.02	3996.19	3894.00	101.19	43 88
27		3.00	3995.01	3898.00	95.01	41.43
28		3.00	3995.01	3898.00	95.01	41.44
29		3.00	3995.63	3898.00	95.63	41.44
30		3.00	3995.62	3893.00	100.62	43 60
31		3.00	3995.93	3893 00	100.93	43.95
32		3.00	3996.34	3892.00	102.34	44 78
33		3.00	3995.62	3893.00	101.62	44 01
34		3.13	3996.24	3897.00	99.24	43 19
35		3.00	3996.63	3907.00	89.63	38 99
36		3.00	3999.36	3900 00	99 36	43 05
37		1.62	4000.78	3895.00	105.78	47.03
38		1.36	3998.41	3891.00	107.41	46 68
39		1.03	3996 18	3895.00	101.18	46.01
40		1.03	3995 98	3890.00	105.98	45.93
41		95.03	3995.15	3891 00	104 15	44 60
42		73.05	3995 78	3894 00	101 78	44.15
43		3.00	3996.60	3892 00	104 60	45.36
44		3.06	3996 98	3891.00	105.98	46.03
45		14.00	4000.42	3888 00	112.42	48 72
46		19.56	3996.99	3891 00	105 99	45 95
47		9.00	4000.16	3887 00	113 16	49 04
48		7 11	3997.81	3891 00	106 81	47 07
49		16 53	4000.36	3887 00	113 36	49.17
50		8.04	4000.97	3887.00	113.97	49.43
51		26 12	4000 18	3887 00	113.18	49 06
52		0 00	4000 19	3887 00	113.19	49.06
53		8.32	4000 39	3887 00	113 39	49.15
54		0 00	4000.01	3890 00	110 01	47.68
55		0.00	3999 61	3894 00	105 61	45.77
56		21.06	4001 43	3894 00	107 43	46 55
57		10 64	4000.26	3896 00	104 26	45 23
58		4 62	4001 27	3901.00	100 27	43 47
59		1.86	4001 61	3901 00	100 61	43.62
60		6.00	4001 67	3901 00	100 67	43.65
61		18.37	4001 24	3901 00	100 24	43.48
62		47.82	4002 81	3905 00	97 81	42 39
63		0.00	4003.63	3905 00	98 63	42 73
64		33 30	4002.65	3901 00	101 65	44 01
65		25.47	4003 69	3901.00	102 69	44 45
66		53 17	4006 60	3903.00	103 60	44 86
67		4 20	4011.43	3901 00	110 43	47 78
68		0 01	4013 69	3901.00	112 69	48 77
69		9.20	4013 98	3901 00	112 98	48 90
70		1 33	4013 82	3900.00	113.82	49.34
71		4.20	4011 19	3898 00	113.19	49 08
72		0.00	4009 40	3898.00	111.40	48 27
73		0.00	4009 84	3898 00	111.84	48.46
74		252.49	4018 85	3901 00	117 85	51.01
75		0 00	4011.92	3897.00	114.92	49 77
76		0.00	4013 87	3900 00	113 87	49 31
77		1.40	4013 26	3898 00	115 26	49 92
		7.11	4014.11	3895.00	119.11	51.60

85	4 36	4013.67	3881 00	134 67	86 62
86	29 54	4016.26	3882 00	130.26	85.57
87	5 01	4019.12	3882 00	127.12	83 89
88	0 00	4019.48	3882.00	127 48	83 26
89	0 84	4019 91	3883 00	126 91	84 02
90	0 75	4019 49	3883 00	126.49	84 01
91	10 66	4012.16	3892 00	135 16	85 88
92	954 44	3983.22	3887 00	96.29	69 39
93	14 79	4019.38	3892 00	114 38	80.56
94	0 81	4019.21	3890 00	122 21	83.96
95	293 86	4018.76	3890 00	120 76	82.33
96	35 94	4013.97	3880 00	127 97	85 39
97	15 19	4014 82	3883 00	131.82	89 13
98	0 00	4013 97	3883 00	130 97	86.75
99	2 96	4015 71	3882 00	133 71	87.96
100	0 83	4014.16	3881 00	131 16	88.86
101	0 42	4017.35	3878 00	133 35	89.34
102	0 42	4017 89	3880.00	137.39	89 41
103	0 83	4013.07	3880 00	131 07	86.83
104	0.42	4016.62	3881 00	134.62	88.17
105	29 94	4016.79	3881 00	134 79	88.26
106	12 76	4013.99	3882 00	130 99	86.78
107	30 94	4013.84	3882 00	131.84	86.78
108	10 26	4013 39	3878.00	135.39	88.67
109	0.84	4013 64	3877 00	137 64	89.21
110	0 84	4013 81	3877 00	137 81	89.38
111	2.10	4013.90	3878 00	135 90	88 89
112	14 77	4013 82	3878.00	135 82	88 84
113	1 84	4014 53	3881.00	134.53	88 31
114	0 00	4014.66	3880.00	134.66	88.38
115	0 28	4014.84	3880 00	134.84	88.43
116	2 70	4014.98	3881 00	133 98	88.36
117	0 28	4014.88	3878 00	137 88	88.89
118	0 00	4014.45	3883 00	133 45	87 81
119	0 42	4014.47	3883 00	133.45	87.83
120	0 00	4014 96	3883 00	131 96	87 10
121	2.10	4014 96	3883 00	131 96	87 10
122	1.68	4014 76	3884 00	133 76	86.22
123	0 79	4014.66	3888 00	131 66	84 03
124	0 26	4013.66	3887 00	131 66	84.79
125	45 61	4014.69	3888 00	126 69	84 01
126	0 84	4013.16	3888 00	125 16	83 06
127	2 98	4014.95	3892 00	131 95	84 21
128	2.68	4017.00	3886 00	131.00	84 77
129	1.68	4017 01	3885 00	132 01	85 21
130	9.88	4018.39	3883 00	132 39	85 80
131	6.70	4014 02	3878 00	136 03	89.20
132	0 42	4014 78	3877 00	135 78	89 69
133	0 00	4014.65	3877 00	137.65	89 65
134	0 00	4014 85	3878 00	133 85	88 36
135	0 42	4014.18	3876 00	141 18	90 76
136	0.00	4014 14	3876 00	141 14	90.74
137	0.00	4014 14	3876 00	135 14	88.39
138	0.00	4014.17	3876 00	138 17	89.07
139	0.00	4014.52	3876 00	136 52	88 91
140	226 28	4019.54	3883 00	137 54	88 37
141	1.61	4019.77	3882 00	137 77	88 17
142	66 63	4013.08	3883.00	133 08	87 16
143	10 36	4019 06	3880 00	139 06	88 39
144	0.38	4015 91	3887 00	133 91	87 56
145	0 13	4019 87	3886 00	133 87	87 00
146	0 00	4018.35	3885 00	134.35	88 22
147	0.00	4018 39	3885 00	134 39	88 22
148	0 00	4018.11	3883 00	133 11	87 68
149	0.98	4018 04	3877 00	138.04	89 49
150	0 00	4015 04	3874 00	139 04	90.83
151	0.00	4015.67	3875 00	135 67	88.49
152	0 42	4015 31	3875 00	140.31	91.06
153	0.00	4018.84	3875 00	140.84	90 26
154	0.00	4018.59	3877 00	141 59	91 36
155	0.00	4016.31	3878 00	137.31	89 00
156	0.00	4016.33	3880 00	136 33	88 03
157	104.98	4014.33	3883 00	131.33	87.72
158	73 01	4014.33	3884.00	132 33	87 36
159	19 00	4014.35	3887.00	128 35	86 01
160	5 00	4013.84	3887 00	133 00	86 19
161	44.31	4014 81	3887.00	126.81	85 17
162	3 00	4014.84	3891 00	125 84	85 67
163	33.38	4018 35	3891.00	124 35	83 88
164	46.41	4017 34	3887 00	133 34	88 66
165	0.00	4017 41	3884 00	133 41	87.41
166	0 00	4017 82	3874 00	139 82	88 48
167	0 00	4015 61	3877 00	138 61	88 07
168	1 68	4015 71	3877 00	138 71	88 11
169	0.84	4016 61	3877 00	139 61	88 16
170	0 00	4016 84	3883 00	133.84	88.97
171	0.00	4018 09	3892 00	131.09	84.64
172	16.66	4016.16	3891 00	137.16	87.10
173	0.00	4016 17	3891 00	138 17	88.44
174	3.93	4018 86	3891 00	136 86	86 86
175	6 00	4018 78	3891 00	136 78	86.84
176	1 68	4021 42	3888 00	133 42	85 81
177	301.74	4014.16	3888 00	138.10	88.88

184	1 40	4020.64	3884 00	135.64	58.78
185	1 40	4021.10	3968 00	133 10	57.68
186	2 00	4021.53	3893 00	128.90	55.68
187	5 80	4021.61	3896 00	125.61	54.66
188	0 80	4021.76	3895 00	126.76	54.93
189	0 00	4022.09	3890 00	131.09	57.25
190	0 00	4022 81	3868.00	134.81	58.48
191	2 10	4023.67	3868.00	133 67	57 92
192	0 00	4021 67	3885 00	136 67	59 22
193	0.00	4023 61	3885.00	138 61	60 07
194	0 00	4024 10	3884 00	139 10	60 27
195	0 00	4022.34	3884.00	138 34	59.91
196	29 86	4023.61	3885 00	138 61	60.07
197	0 00	4023.03	3881 00	138 03	60 16
198	24 38	4022.01	3881 00	141 01	61.10
199	29.84	4023 11	3880 00	143 11	62 02
200	29 84	4022 65	3879 00	143.65	62.26
201	0 42	4022 62	3879.00	143.62	62 26
202	2 10	4021.90	3875 00	146.90	63.66
203	4 20	4021 86	3874 00	147 86	63.96
204	294 42	4018 37	3875.00	140.37	60.83
205	0 84	4018.62	3878 00	140 62	60 96
206	0.42	4018 74	3878.00	140 74	60 99
207	0.84	4018.76	3878.00	139.76	60 56
208	0.84	4016 31	3875.00	141.31	61.38
209	0 84	4016.24	3876.00	140 24	60 77
210	0 84	4016 78	3876.00	137.78	59.71
211	0 00	4017.37	3876.00	141.37	61.26
212	0.42	4017.37	3878.00	139.37	60.39
213	0.00	4017.37	3878.00	139.37	60.66
214	0.00	4017.87	3881.00	136.87	59.31
215	0.84	4017.87	3881.00	136.87	59.31
216	0 00	4020 89	3881.00	139 89	60.37
217	0.00	4021.31	3881.00	137.31	59 51
218	0.00	4021.79	3881.00	137.79	59.71
219	0.00	4021.95	3885.00	136.95	60.04
220	0 00	4020.38	3896.00	131.38	56.96
221	0.00	4018.41	3898.00	133 41	57.48
222	0.00	4018.24	3898.00	133.24	57 41
223	1.04	4017.99	3897.00	135.99	58.43
224	0.00	4018.14	3898 00	133.14	57 36
225	0.00	4018 22	3898.00	133.22	57.40
226	0.84	4016.83	3899.00	135.83	58.46
227	0.84	4015.81	3891.00	134.81	58.47
228	0.00	4015.98	3890.00	134 98	58.33
229	0.00	4016.03	3898.00	133 03	57.74
230	0.84	4017.83	3896.00	135 83	58 99
231	0.00	4017.18	3896.00	136.18	58 99
232	0 84	4018.13	3898.00	133.13	57 34
233	0.00	4018 34	3893.00	135 34	58.27
234	0.00	4018.98	3892.00	136 98	59 05
235	0.84	4019.68	3889.00	132.68	57 00
236	0.00	4017.38	3885.00	137.38	59.02
237	0.00	4016.01	3878.00	138 01	60.24
238	0.00	4013.90	3878.00	135 90	60.23
239	0.00	4014.54	3878.00	136 54	60 01
240	0.00	4018.08	3883.00	135 08	59 03
241	0.00	4018.08	3884.00	134.08	58 10
242	0.00	4018.00	3888.00	130.00	57.20
243	0.00	4017.37	3888.00	129.37	56.39
244	0.00	4016.43	3881.00	135.43	58.36
245	0.00	4015.76	3881.00	134.76	58.78
246	0.00	4015.96	3881.00	134.96	59.18
247	0.00	4015.17	3876.00	139.17	60.46
248	0.00	4015.93	3876.00	139.93	60.97
249	0.00	4015.63	3878.00	144.63	62.67
250	0.00	4015.71	3878.00	138.71	60.11
251	0.00	4015.84	3878.00	138.84	60.16
252	0.00	4015.07	3876.00	141.07	62.38
253	0.00	4015.79	3878.00	138.79	60.16
254	0.00	4015.01	3876.00	141.07	62.34
255	0.42	4015.73	3878.00	138.73	60.12
256	0.00	4015.88	3878.00	140.88	60 98
257	0.00	4015.86	3876.00	145.86	63.21
258	96 25	4014.33	3870.00	144.33	62.96
259	0.00	4021.87	3872.00	149.87	64.94
260	0.84	4021.96	3874 00	147.96	63.94
261	0.00	4021.78	3870.00	146.78	63.39
262	0.00	4021.77	3870.00	145.77	63 17
263	0.00	4022 10	3875.00	147.10	63 74
264	0.00	4022 78	3870.00	143.78	62.27
265	0.00	4022 71	3870.00	143.71	62.27
266	0.00	4022.78	3870.00	143.78	62.27
267	0.00	4022.96	3869.00	136 96	59.06
268	0.00	4023 06	3870.00	135.06	58.66
269	0.00	4023 10	3869.00	135 10	58.83
270	0.00	4021.05	3865.00	131 09	57.63
271	0.00	4022.93	3868.00	137 93	59.76
272	0.00	4022.63	3867.00	162 63	61.81
273	0.00	4021.86	3867.00	162.86	61.82
274	0.00	4022.61	3868.00	162.61	61 81
275	0.00	4020.61	3879 00	141.63	62 24
276	1.26	4021.78	3878.00	145.78	63.17

283	2.00	4021.91	3974.00	144.91	63.60
284	2.01	4021.88	3974.00	145.88	64.00
285	0.70	4021.88	3972.60	144.88	64.01
286	95.25	4014.39	3970.00	144.29	62.51
287	0.02	4013.24	3972.00	140.20	62.79
288	0.00	4013.19	3974.00	138.19	59.00
289	0.00	4010.80	3970.00	134.56	60.04
290	0.00	4010.01	3970.00	131.05	59.31
291	13.64	4013.22	3970.00	136.52	59.01
292	12.77	4011.01	3980.00	131.05	56.77
293	18.96	4009.99	3990.00	129.99	51.99
294	0.00	4009.91	3991.00	118.05	51.00
295	0.00	4007.91	3996.00	113.71	48.29
296	0.91	4012.91	3995.00	97.91	42.02
297	0.00	3989.15	3960.00	27.19	11.70
298	32.36	4009.92	3995.00	174.05	75.04
299	0.38	4009.94	3990.00	179.05	77.00
300	0.91	4009.94	3990.00	179.86	77.02
301	0.91	4009.88	3990.00	139.98	60.15
302	0.81	4009.85	3996.00	155.15	67.01
303	9.98	4009.56	3995.00	184.56	79.97
304	18.86	4008.72	3990.00	93.72	40.10
305	7.45	4004.16	3995.00	109.16	47.25
306	0.38	4001.02	3990.00	91.02	39.02
307	4.36	4001.02	3990.00	101.02	43.95
308	0.00	3999.01	3990.00	99.01	43.21
309	1.19	4009.95	3990.00	119.98	51.99
310	0.00	4009.55	3987.00	122.58	53.19
311	0.36	4010.04	3985.00	127.05	55.21
312	9.45	4010.79	3975.00	132.79	58.04
313	0.00	4009.80	3975.00	134.02	58.42
314	0.00	4009.80	3975.00	134.30	58.57
315	0.00	4008.91	3985.00	122.95	51.20
316	0.00	4008.33	3985.00	122.32	52.92
317	0.00	4008.31	3974.00	134.31	58.38
318	0.02	4007.86	3974.00	132.00	57.88
319	0.30	4007.86	3985.00	121.66	51.66
320	6.38	4007.37	3985.00	121.17	52.59
321	0.32	4007.88	3975.00	132.00	57.21
322	33.36	4007.09	3975.00	131.99	57.24
323	0.91	4007.10	3985.00	121.10	51.51
324	17.02	4007.12	3985.00	121.12	52.46
325	36.49	4007.09	3975.00	132.09	57.24
326	0.36	3999.86	3955.00	99.00	43.54
327	0.32	4009.17	3915.00	82.17	38.97
328	4.28	4008.32	3910.00	92.32	39.16
329	35.00	4009.84	3915.00	104.84	79.97
330	30.00	4009.84	3915.00	104.84	79.97
331	37.02	4009.85	3905.00	104.85	44.97
332	0.00	3999.80	3905.00	26.00	11.61
333	0.00	3982.06	3900.00	18.09	7.84
334	0.00	4009.57	3930.00	109.57	46.82
335	0.00	4009.46	3945.00	104.46	45.03
336	0.00	4010.41	3957.00	101.45	43.61
337	495.11	4009.47	3955.00	104.47	42.61
338	0.00	3982.00	3940.00	12.00	5.04
339	0.00	4008.01	3949.00	103.01	50.90
340	0.00	4008.44	3945.00	104.45	50.76
341	0.00	4010.00	3955.00	102.00	52.35
342	0.00	4010.87	3950.00	102.00	52.09
343	0.00	4011.32	3955.00	102.32	52.53
344	0.00	4011.96	3955.00	101.96	52.05
345	3.32	4142.96	3952.00	152.96	66.38
346	2.32	4113.78	4022.00	113.78	49.30
347	0.00	4113.76	4028.00	108.76	47.11
348	14.99	4113.76	4027.00	106.76	46.36
349	42.73	4113.76	3993.00	103.76	53.62
350	34.49	4114.71	4023.00	91.71	39.74
351	2.93	4114.61	4023.00	94.61	41.00
352	2.82	4114.01	4021.00	93.01	38.47
353	0.18	4114.44	4020.00	94.44	40.92
354	44.31	4114.32	4028.00	80.30	38.73
355	4.00	4114.67	4016.00	98.65	34.00
356	3.64	4123.38	4040.00	85.36	38.72
357	0.00	4115.02	4030.00	85.02	36.84
358	0.00	4122.48	4060.00	62.45	27.04
359	228.48	4114.17	4058.00	84.17	38.67
360	0.00	4113.00	4039.00	85.00	36.91
361	0.42	4114.47	4053.00	61.47	27.01
362	0.00	4114.00	4038.00	88.00	38.00
363	0.00	4110.88	4039.00	19.38	8.40
364	0.00	4274.33	4230.00	178.33	77.57
365	0.00	4314.46	4188.00	219.00	97.84
366	6.00	4310.38	4185.00	188.38	85.67
367	38.44	4312.33	4185.00	202.33	88.64
368	3.18	4112.38	4113.00	97.38	42.39
369	38.44	4312.33	4117.00	92.33	40.44
370	0.91	4312.32	4130.00	85.32	36.80
371	2.00	4310.31	4126.00	83.33	36.06
372	14.99	4312.31	4126.00	78.31	33.96
373	36.66	4310.31	4103.00	85.31	36.13
374	14.99	4312.31	4105.00	99.31	43.07
375	3.14	4312.31	4130.00	72.31	32.54
376	0.36	4310.31	4130.00	72.31	32.31

302	0.00	4020.12	3872.80	148.12	64.19
303	0.00	4019.67	3871.80	146.67	63.56
306	0.00	4021.77	3871.80	148.77	64.46
305	0.00	4021.69	3875.00	146.69	63.57
304	0.00	4013.76	3874.00	147.76	64.02
307	0.00	4023.77	3870.00	143.77	62.30
308	0.00	4023.78	3877.00	146.78	63.76
309	0.00	4021.81	3870.00	146.81	63.61
310	0.00	4023.80	3875.00	148.80	63.65
311	0.00	4023.79	3873.00	148.79	64.49
312	0.00	4022.26	3880.00	142.26	61.65
313	0.00	4022.58	3880.00	141.58	61.39
314	0.00	4022.65	3880.00	142.65	61.82
315	0.00	4020.84	3883.00	137.84	59.73
316	0.00	4022.87	3885.00	137.87	59.73
317	0.00	4021.31	3887.00	134.31	58.07
318	0.00	4023.26	3889.00	134.26	58.17
319	0.00	4023.36	3889.00	134.36	58.09
401	0.00	4022.98	3889.00	133.98	58.04
402	0.00	4023.06	3894.00	129.06	55.93
403	0.00	4023.07	3896.00	127.07	55.04
404	0.00	4023.10	3895.00	128.10	55.51
405	0.00	4023.16	3895.00	128.16	55.54
407	0.00	4021.09	3899.00	122.09	53.19
408	0.00	4027.46	3900.00	127.69	55.53
409	0.00	4009.39	3898.70	110.69	46.16
921	0.00	4024.76	3883.00	141.76	61.44
922	0.00	3879.46	3881.00	6.46	2.80
923	0.00	3993.29	3966.10	27.19	10.92
924	0.00	4183.19	3966.10	201.09	87.21
925	0.00	4118.80	4098.80	19.30	8.40
926	0.00	4017.93	3990.70	27.23	11.80
650	1727.00	3995.16	3951.00	44.16	19.21
730	0.00	3976.62	3962.00	14.62	6.33
731	0.00	3992.01	3968.00	24.01	10.40

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)	JUNCTION NUMBER	MINIMUM PRESSURE (psi)
319	86.16	922	3.80
420	81.80	333	8.24
427	82.10	338	8.56
324	81.32	715	6.33
303	78.97	363	8.40

HL / 1000

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
618	35.79	331	0.31
698	33.22	723	0.30
367	30.03	658	0.00
368	26.00	650	0.00
313	24.68	336	0.01

RECULATING VALVE REPORT

RV LABEL	VALVE TYPE	REGULATION MODE	CONTROLLED PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROUGH FLOW (gpm)
R1	PRV-1	306	647	4216.40	THROTTLED	4278.32	4210.40	331.49

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	NODE NUMBER	FLOWRATE (gpm)	NODE TITLE
AA	48	-3603.37	Tank 6119
CC	657	1858.79	Tank 7059
DD	593	-1786.82	Tank 7060
EE	663	-1669.69	Tank 7241
FF	644	629.86	Tank 7241
GG	669	135.78	Tank 7775
II	813	4438.65	Tank 1310
JJ	838	4433.39	Tank 1319

NET SYSTEM OUTFLOW = -8873.83
NET SYSTEM DEMAND = 7441.73

C H A N G E S F O R N E X T S I M U L A T I O N
D E M A N D C H A N G E S

DEMAND TYPE = 1 ; GDF = 1.000

P I P E P A R A M E T E R C H A N G E S

STATUS CODE XX -CLOSED PIPE FG -FIXED GRADE NODE PU -PUMP LINK
CV -CHECK VALVE PV -PRESSURE VALVE

PIPE NUMBER	NODE NO1	NODE NO2	LENGTH (FT)	DIAMETER (IN)	ROUGHNESS COEFF	MINOR LOSS COEFF	FLOW-VOL (CFS)
823-PU	821	836	10.0	14.0	130.00	0.00	0.00
THIS PUMP IDENTIFYING NUMBER (ID) = 18							
818-PU	822	82.	10.0	16.0	100.00	0.00	0.00
THIS PUMP IDENTIFYING NUMBER (ID) = 11							

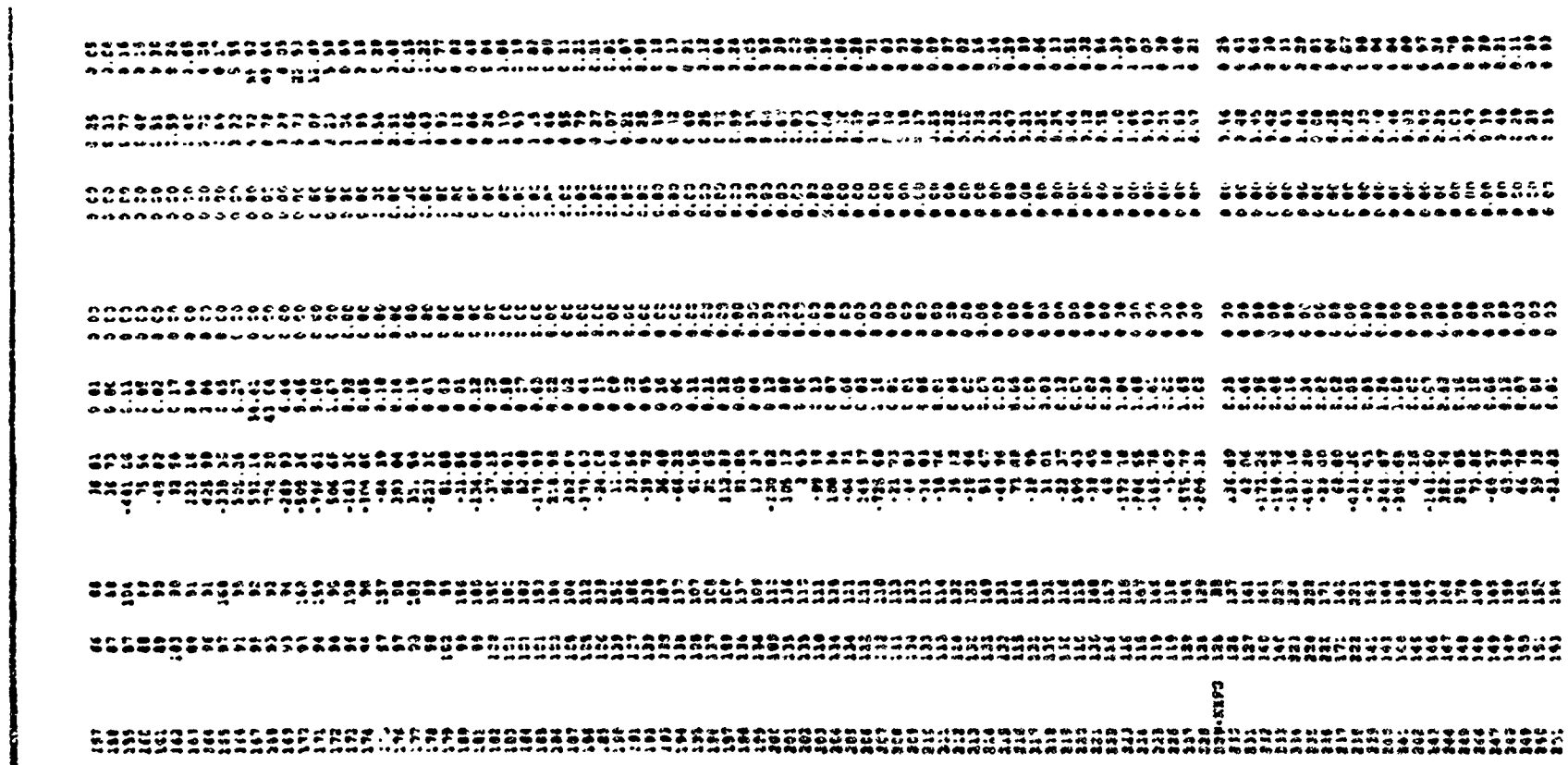
S I M U L A T I O N R E S U L T S

THE RESULTS ARE OBTAINED AFTER 3 TRIALS WITH AN ACCURACY = 0.001376

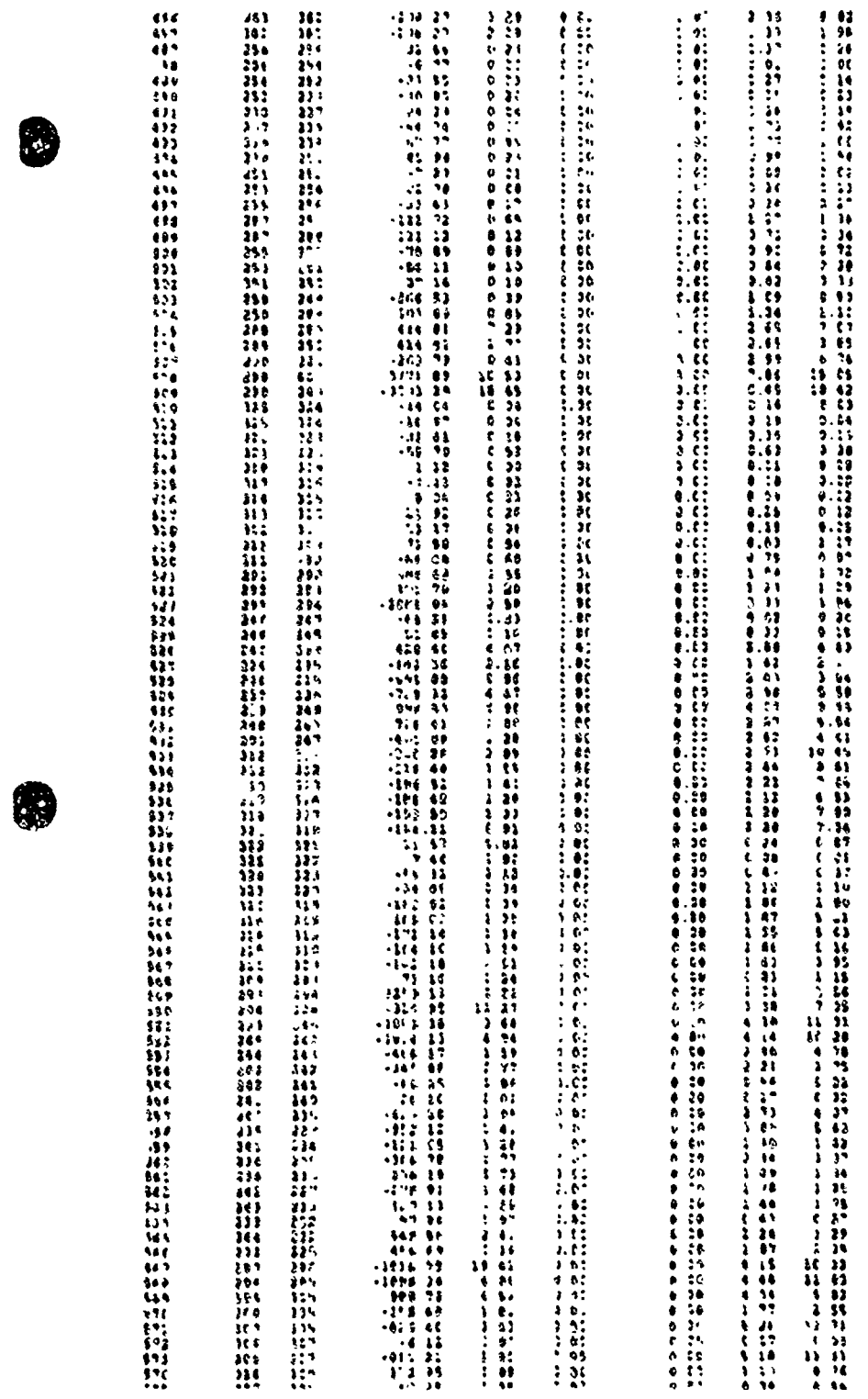
P I P E L I N E R E S U L T S

STATUS CODE XX -CLOSED PIPE FG -FIXED GRADE NODE PU -PUMP LINK
CV -CHECK VALVE PV -PRESSURE VALVE TK -STORAGE TANK

PIPE NUMBER	NODE NO1	NODE NO2	FLOWRATE (gpm)	HEAD LOSS (ft)	PUMP HEAD (ft)	PUMP LABEL	MINOR LOSS (ft)	LINK VELO (ft/s)	HL/ 100' (ft/ft)
1	1	2	33.33	0.03	0.00		0.00	0.15	0.13
2	2	3	26.74	0.04	0.00		0.00	0.38	0.13
3	3	4	63.10	0.46	0.00		0.00	0.72	0.48
4	4	5	-35.91	0.01	0.00		0.00	0.13	0.02
5	4	6	-7.99	0.01	0.00		0.00	0.03	0.01
6	4	8	8.09	0.00	0.00		0.00	0.04	0.01
7	6	7	-55.44	0.33	0.00		0.00	0.43	0.28
8	8	9	66.94	0.14	0.00		0.00	0.49	0.44
9	9	3	61.01	0.05	0.00		0.00	0.39	0.28
10	10	2	18.21	0.01	0.00		0.00	0.22	0.10
11	11	1	14.93	0.02	0.00		0.00	0.10	0.06
1_	11	11	-7.09	0.00	0.00		0.00	0.30	0.02
12	12	9	18.01	0.38	0.00		0.00	0.21	0.09
13	9	5	102.08	0.68	0.00		0.00	1.16	1.16
14	6	7	8.07	0.01	0.00		0.00	0.09	0.01
15	7	10	-21.12	0.08	0.00		0.00	0.26	0.07
17	21	10	31.83	0.34	0.00		0.00	0.36	0.13
18	10	11	-2.41	0.00	0.00		0.00	0.03	0.00
19	11	7	28.93	0.01	0.00		0.00	0.41	0.17
20	24	10	42.34	0.18	0.00		0.00	0.48	0.41
21	17	21	61.17	0.03	0.00		0.00	0.18	0.33
22	17	18	-61.17	0.03	0.00		0.00	0.39	0.11
23	26	16	-43.06	0.03	0.00		0.00	0.20	0.11
24	16	15	-106.03	0.46	0.00		0.00	0.67	0.86
25	15	14	98.33	0.66	0.00		0.00	0.61	0.46
26	14	9	102.07	0.38	0.00		0.00	0.97	1.16
27	27	25	105.46	0.01	0.00		0.00	0.57	0.13
28	28	14	86.91	0.03	0.00		0.00	0.55	0.20
29	29	28	89.03	0.03	0.00		0.00	0.46	0.20
30	16	13	29.97	0.06	0.00		0.00	0.18	0.06
31	13	10	35.16	0.10	0.00		0.00	0.49	0.30
32	12	11	26.42	0.04	0.00		0.00	0.20	0.10
33	13	12	9.06	0.02	0.00		0.00	0.10	0.03
34	24	12	33.96	0.02	0.00		0.00	0.24	0.11
35	23	24	-0.95	0.00	0.00		0.00	0.01	0.00
36	23	17	28.22	0.03	0.00		0.00	0.23	0.11
37	23	22	-23.43	0.02	0.00		0.00	0.18	0.06
38	22	20	19.79	0.01	0.00		0.00	0.11	0.03
39	28	22	33.32	0.03	0.00		0.00	0.28	0.07
40	27	30	-219.98	0.66	0.00		0.00	0.77	0.57
41	30	29	83.47	0.04	0.00		0.00	0.98	0.00
43-XXPS	31	AA							
43	31	30	313.41	0.33	0.00		0.00	1.00	0.29
44	30	26	99.22	0.09	0.00		0.00	0.57	0.57
45	26	28	83.76	0.03	0.00		0.00	0.38	0.13
46	25	24	133.83	0.01	0.00		0.00	0.15	0.15
47	16	31	-2.75	0.00	0.00		0.00	0.01	0.00
48	11	10	10.25	0.01	0.00		0.00	0.14	0.03
49	20	21	16.75	0.03	0.00		0.00	0.17	0.03
50	22	21	33.45	0.06	0.00		0.00	0.26	0.07
51	23	23	-33.42	0.01	0.00		0.00	0.09	0.01
52	23	42	-57.48	0.02	0.00		0.00	0.24	0.05
53	19	41	7.09	0.01	0.00		0.00	0.03	0.01



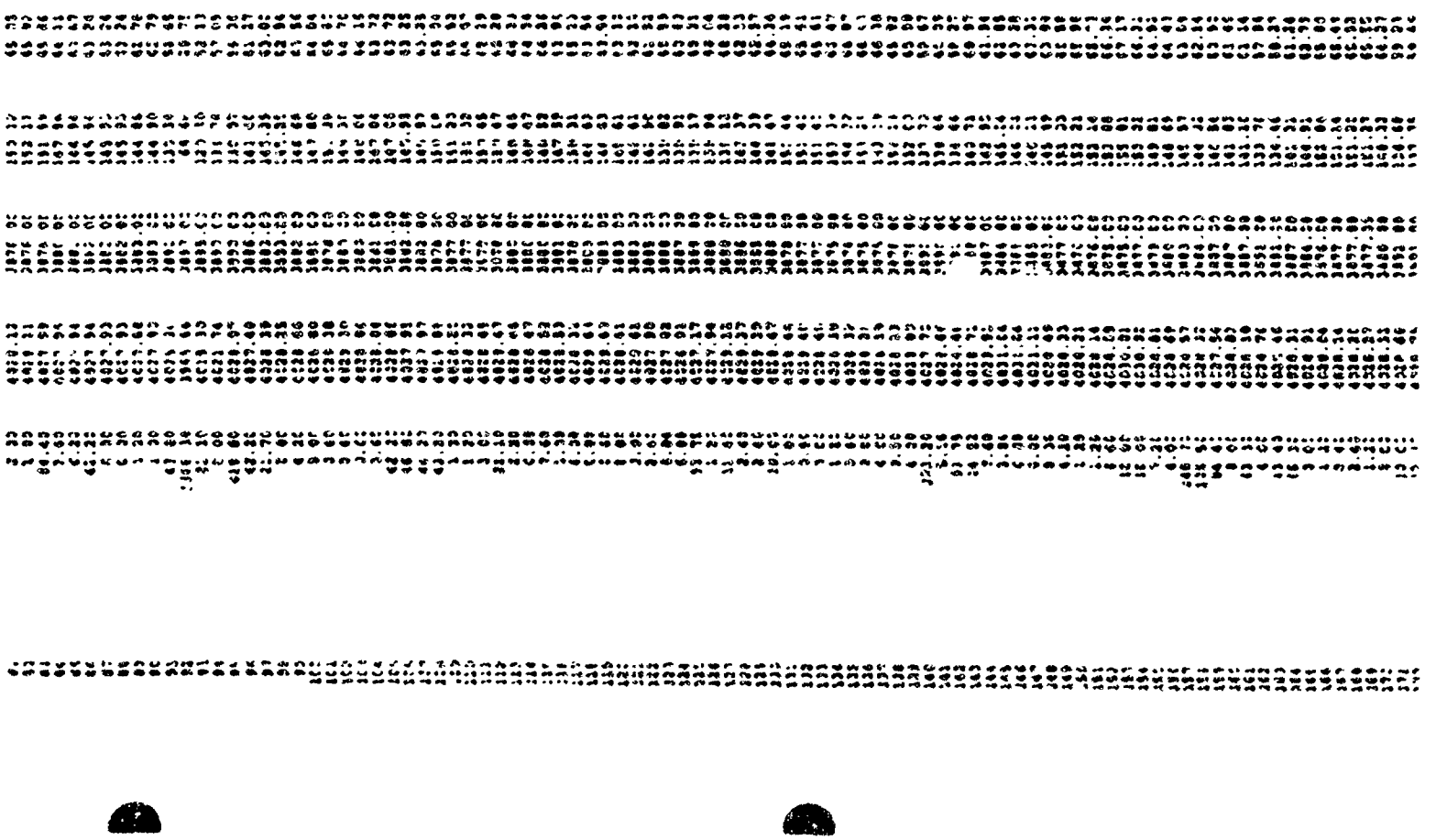
156	158	159	156.26	0.76	0.00	0.00	1.19	1.43
157	159	161	-527.87	0.56	0.00	0.00	2.24	5.60
158	161	161	-901.71	0.73	0.00	0.00	6.14	10.27
159	161	162	398.54	3.36	0.00	3.00	2.49	3.44
160	162	163	-118.03	0.69	0.00	3.00	1.35	1.54
161	163	164	-163.23	5.06	0.00	3.00	1.64	3.71
162	164	153	267.35	0.77	0.00	3.00	1.71	1.71
163	164	165	-87.19	0.59	0.00	3.00	0.99	0.97
164	165	166	236.95	0.99	0.00	3.00	1.51	1.26
165	167	163	-268.80	3.06	0.00	3.00	1.71	1.71
166	202	154	196.05	1.98	0.00	0.00	1.24	0.95
167	153	203	-167.18	1.65	0.00	3.00	1.27	0.72
168	183	165	56.36	0.36	0.00	0.00	0.32	0.14
169	168	181	101.12	0.16	0.00	0.00	0.65	0.52
170	165	167	-81.96	0.10	0.00	0.00	0.33	0.15
171	180	181	81.96	0.28	0.00	0.00	0.52	0.38
172	180	167	-25.31	0.01	0.00	0.00	0.33	0.08
173	167	168	-86.31	0.08	0.00	0.00	0.38	0.11
174	175	161	66.64	0.06	0.00	0.00	0.32	0.13
175	175	168	-39.28	0.01	0.00	0.00	0.12	0.08
176	169	153	-16.68	0.01	0.00	0.00	0.11	0.02
177	169	169	-91.88	0.07	0.00	0.00	0.37	0.18
178	178	179	23.16	0.04	0.00	0.00	0.21	0.06
179	178	168	-49.74	0.06	0.00	0.00	0.33	0.14
180	169	178	-81.42	0.08	0.00	0.00	0.33	0.10
181	177	178	-15.10	0.01	0.00	0.00	0.10	0.02
182	177	178	-170.39	0.09	0.00	0.00	0.78	0.38
183	177	213	-235.61	0.34	0.00	0.00	0.88	0.87
184	165	176	-488.67	0.96	0.00	0.00	1.98	1.97
185	176	176	179.84	1.71	0.00	0.00	2.84	4.11
186	175	144	42.82	0.22	0.00	0.00	0.49	0.43
187	143	173	-69.55	0.11	0.00	0.00	0.40	0.26
188	174	175	-147.99	1.00	0.00	0.00	1.02	0.89
189	173	174	-160.28	0.68	0.00	0.00	1.07	0.93
190	172	173	-86.63	0.06	0.00	0.00	0.88	0.21
191	172	171	98.85	0.07	0.00	0.00	0.38	0.23
192	172	225	-19.30	0.01	0.00	0.00	0.22	0.05
193	183	167	4.24	0.00	0.00	0.00	0.03	0.01
194	221	225	396.85	0.31	0.00	0.00	2.02	1.51
195	221	220	-820.09	1.25	0.00	0.00	2.28	3.91
196	174	227	-30.61	0.02	0.00	0.00	0.28	0.06
197	175	228	-19.83	0.03	0.00	0.00	0.10	0.07
198	176	228	223.15	0.20	0.00	0.00	0.98	0.48
199	176	219	1307.88	1.76	0.00	0.00	2.72	3.25
200	220	219	-1394.61	1.95	0.00	0.00	2.84	3.87
201	226	225	-920.92	0.89	0.00	0.00	1.96	1.27
202	226	226	-880.78	0.27	0.00	0.00	1.67	1.85
203	226	227	-614.28	0.60	0.00	0.00	1.74	1.67
204	227	227	-927.84	1.09	0.00	0.00	2.83	3.69
205	228	229	-967.93	0.93	0.00	0.00	2.69	2.73
206	229	225	-765.17	0.85	0.00	0.00	1.68	2.04
207	229	230	-1147.92	1.17	0.00	0.00	3.26	3.22
208	230	218	-1269.44	0.61	0.00	0.00	3.56	4.22
209	230	231	99.96	0.01	0.00	0.00	0.28	0.06
210	231	217	-264.07	0.31	0.00	0.00	2.49	0.87
211	218	217	1617.59	0.41	0.00	0.00	4.16	10.38
212	218	219	-2264.99	0.71	0.00	0.00	4.72	8.84
213	219	221	-4936.68	1.10	0.00	0.00	8.37	22.04
214	216	211	-9827.43	0.66	0.00	0.00	7.38	13.39
215	216	147	1396.89	3.87	0.00	0.00	2.92	3.40
216	249	216	-2128.73	4.44	0.00	0.00	3.48	3.72
217	216	217	-783.13	1.91	0.00	0.00	3.58	5.93
218	231	218	261.00	3.77	0.00	0.00	0.30	0.47
219	215	214	-264.16	0.87	0.00	0.00	1.60	0.74
220	214	213	223.33	0.14	0.00	0.00	0.95	0.60
221	213	212	0.00	0.00	0.00	0.00	0.00	0.00
222	213	211	0.00	0.00	0.00	0.00	0.00	0.00
223	181	209	186.07	1.03	0.00	0.00	1.15	1.51
224	214	215	275.31	1.01	0.00	0.00	1.12	0.99
225	215	208	124.45	0.33	0.00	0.00	0.79	0.76
226	215	209	249.40	0.91	0.00	0.00	0.96	1.07
227	209	208	28.93	0.01	0.00	0.00	0.18	0.05
228	208	206	151.77	0.55	0.00	0.00	0.97	1.10
229	207	207	119.47	0.31	0.00	0.00	0.77	0.71
230	207	206	130.06	0.21	0.00	0.00	0.89	0.93
231	206	206	398.02	0.91	0.00	0.00	1.98	3.36
232	207	208	-.38	0.01	0.00	0.00	0.13	0.03
233	208	204	158.79	1.32	0.00	0.00	1.01	1.29
234	204	217	38.22	0.22	0.00	0.00	0.39	0.20
235	203	202	37.41	0.03	0.00	0.00	0.43	0.36
236	203	202	-212.78	0.26	0.00	0.00	1.36	1.13
237	202	203	-296.60	0.36	0.00	0.00	1.46	1.59
238	203	221	-185.96	0.73	0.00	0.00	1.19	0.87
239	222	222	12.17	0.00	0.00	0.00	0.38	0.01
240	201	200	-171.46	1.41	0.00	0.00	0.71	1.39
241	200	204	-24.49	0.02	0.00	0.00	0.58	0.21
242	201	199	-429.56	0.00	0.00	0.00	1.66	1.17
243	200	198	277.47	2.01	0.00	0.00	1.77	1.83
244	199	198	297.07	0.87	0.00	0.00	1.79	1.87
245	199	196	-93.98	0.06	0.00	0.00	0.61	0.36
246	198	197	207.63	0.48	0.00	0.00	1.36	1.21
247	197	197	-96.03	2.11	0.00	0.00	0.62	0.37
248	197	196	-79.74	0.41	0.00	0.00	0.83	0.62
249	196	194	261.03	1.31	0.00	0.00	1.82	1.82
250	193	195	326.16	1.00	0.00	0.00	2.27	2.44
251	194	194	469.29	2.09	0.00	0.00	2.61	3.74



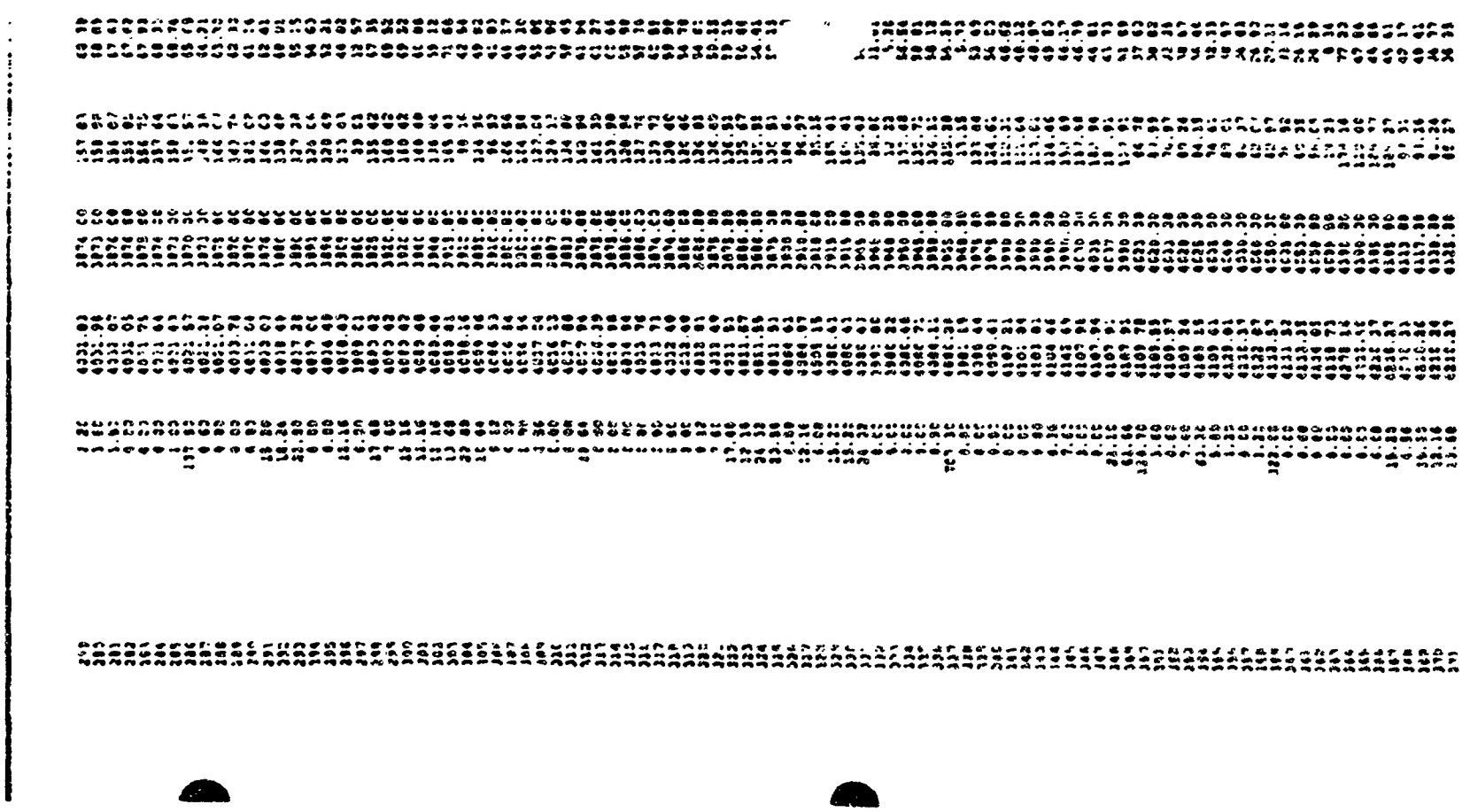
828-REPC	826	819								
829-REPC	826	819								
C35-P2	826	819	6176 54	6 34	178.35	P1C	0.00	6.43	3.43	
831	827	828	-6134 54	6 97	0.00		0.00	6.42	3.03	
909	686	703	1876 65	37 97	0 58		0 58	3 91	4.23	
931-P2	700	11	1876 65	0 17	0 00		0 00	3.91	6 26	
911-RR	711	730								
913-RR	700	141								
913-RA	701	141								
914-PC	701	9C9	-911 55	0.00	0 00		0 00	3.88	6 15	

JUNCTION NODE RESULTS

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	JUNCTION ELEVATION (ft)	PRESSURE HEAD (ft)	JUNCTION PRESSURE (psi)
1		1 28	6028 97	3904.00	121 97	52 86
2		1 85	6026 04	3902 00	124 04	54 16
3		20 60	6028 95	3901 00	126.95	54.99
4		82 28	6020 86	3903 00	120 86	52.72
5		54 72	6026 86	3897 00	129 86	56.01
6		42 56	6026.56	3902 00	124 56	54 71
7		8.88	6025 89	3897 00	128 89	56.07
8		33 46	6026 00	3898 00	128 00	55.44
9		9 66	6022 79	3898 00	124 79	54 01
10		4 25	6026 97	3900 00	126.97	54 12
11		4 86	6026 95	3907 00	119.95	51 98
12		3 60	6027 84	3907.00	120.84	52.32
13		3 43	6027 87	3908 00	119 87	51.96
14		2.68	6027 16	3908 00	119.16	51.65
15		8 05	6027 81	3906 00	119 81	51.90
16		3 60	6016 76	3905 00	111. 76	57.08
17		1 03	6016.72	3905 00	111. 72	57.08
18		12 92	6016 48	3907 00	109.48	56 10
19		3 83	6016.11	3907.00	109 81	56 13
20		7 62	6016 83	3905 00	111 83	57.06
21		4 12	6016 89	3905.00	111 89	57 02
22		15 94	6016.63	3903.00	113 63	57 91
23		11 08	6016 64	3905 00	111.64	57 04
24		62 35	6016 84	3905 00	111 84	57.04
25		21 15	6016 69	3905 00	111.69	57.37
26		3 88	6016 71	3904 00	112 71	57.51
27		4 03	6029.91	3899 00	129.81	55.99
28		3 63	6029 18	3899 00	130.18	56.30
29		5.09	6029 81	3898 00	131 81	56 16
30		6 08	6027 26	3893 00	134. 26	58 12
31		6.80	6029 39	3902 00	127.39	54 64
32		6 00	6029 19	3903.00	126 19	54.15
33		1 94	6025.89	3899 00	126 89	54 37
34		6 69	6029 13	3901.00	128.13	55.01
35		8 08	6027 33	3901 00	127 33	54.67
36		8 85	6029.02	3899.00	130 02	55 76
37		1.00	6027.69	3899.00	128.69	55 20
38		2 00	6029.39	3899.00	130 39	55 93
39		8 00	6029 64	3901.00	128.64	55.20
40		84 40	6026 07	3899 00	127 07	54.51
41		101 80	6026 81	3894 00	132 81	57 47
42		4 48	6026 66	3892 00	134 66	58 31
43		3 88	6026.64	3891.00	135 64	58 78
44		21.38	6026 83	3896 00	130 83	56 71
45		27.96	6026 87	3897.00	129 87	55 79
46		11.49	6026 95	3897 00	129 95	55.63
47		17 36	6026 87	3893 00	133 87	57.47
48		25 96	6027 73	3887 00	140 73	61 00
49		4 36	6027 71	3887 00	140 71	60.99
50		28 84	6027.63	3887 00	140 63	60 96
51		9 00	6027 59	3887.00	140 59	60 93
52		9 00	6027 52	3889.00	138 52	60 00
53		6 00	6027 08	3885.00	142 08	61 71
54		6 00	6027 78	3886.00	141 78	61 39
55		34 92	6027 84	3886.00	141 84	61 42
56		33 20	6027 73	3886.00	141 73	61 37
57		8 00	6027 93	3885.00	142 93	61 88
58		1 00	6027 98	3883.00	144 98	62 77
59		9 00	6027 94	3883.00	144.94	62.75
60		24 56	6027 73	3885.00	142 73	61.85
61		68 36	6027 73	3886.00	141 73	61.41
62		2 00	6027.73	3886.00	141.73	61.41
63		27 70	6027 79	3885.00	142 79	61.88
64		32 10	6027.76	3884 00	143.76	62 29
65		38 96	6027 28	3886 00	141 28	61 19
66		6 00	6027 95	3886.00	141 95	61.49
67		12 16	6027 73	3886.00	141.73	61.40
68		38 00	6027 98	3883 00	144 98	62 79
69		8 00	6027 96	3883.00	144 96	62 78
70		8.00	6028 06	3878.00	150.06	65 02
71		8 00	6027 [illegible]	3884.00	143.86	62 34
72		8 00	6027 [illegible]	3887.00	140 89	61.02



180	2.12	4038.13	3877.00	181.12	65.46
181	3.00	4037.88	3876.00	181.00	65.67
182	64.50	4038.62	3880.00	183.62	65.37
183	1.38	4038.78	3882.00	180.78	66.47
184	2.00	4038.31	3885.00	186.31	65.76
185	3.00	4038.65	3888.00	184.65	65.23
186	4.00	4038.91	3892.00	186.91	65.18
187	5.00	4038.95	3896.00	187.00	65.37
188	6.00	4039.19	3900.00	187.19	65.42
189	8.00	4039.32	3908.00	187.32	65.67
190	8.00	4038.99	3908.00	186.99	65.93
191	3.00	4038.19	3908.00	186.19	65.69
192	4.00	4038.19	3905.00	187.19	65.78
193	8.00	4038.85	3905.00	186.85	65.42
194	8.00	4038.85	3905.00	186.85	65.93
195	6.00	4038.91	3906.00	186.91	65.84
196	62.00	4037.67	3925.00	187.67	65.63
197	6.00	4037.95	3925.00	187.81	65.68
198	43.46	4037.87	3926.00	187.87	65.59
199	42.38	4037.86	3958.00	187.86	65.36
200	42.38	4037.88	3979.00	187.88	65.38
201	1.62	4037.80	3979.00	187.80	65.36
202	3.00	4037.87	3975.00	187.87	65.98
203	9.00	4037.82	3976.00	187.82	65.80
204	42.38	4037.96	3978.00	187.96	65.80
205	1.38	4038.03	3978.00	188.03	65.79
206	9.00	4038.01	3978.00	188.01	65.78
207	1.38	4038.02	3976.00	188.02	65.35
208	1.38	4037.36	3978.00	187.36	65.98
209	1.38	4037.37	3978.00	187.37	65.93
210	1.38	4037.64	3979.00	188.00	66.41
211	9.00	4038.04	3976.00	187.96	66.15
212	8.00	4038.86	3978.00	188.96	66.26
213	9.00	4038.85	3982.00	188.85	65.92
214	4.00	4038.78	3985.00	187.78	66.00
215	10.00	4038.03	3985.00	187.63	65.97
216	9.00	4038.19	3985.00	188.19	66.04
217	8.00	4038.01	3985.00	187.01	65.97
218	9.00	4038.01	3985.00	188.03	66.15
219	8.00	4038.74	3985.00	188.74	66.05
220	4.00	4038.78	3988.00	188.78	66.00
221	8.00	4038.93	3988.00	188.93	65.96
222	9.00	4038.68	3988.00	188.68	65.93
223	2.00	4038.16	3987.00	188.16	66.06
224	9.00	4038.14	3985.00	188.14	65.78
225	8.00	4038.67	3985.00	188.42	65.82
226	6.00	4038.80	3983.00	188.85	65.95
227	8.00	4037.98	3981.00	188.33	65.91
228	6.00	4038.98	3980.00	188.33	66.00
229	9.00	4038.23	3980.00	188.23	65.99
230	8.00	4038.81	3980.00	188.41	65.66
231	2.00	4038.19	3985.00	188.40	65.66
232	8.00	4038.36	3981.00	188.36	65.78
233	9.00	4038.11	3983.00	188.33	65.64
234	36.46	4038.06	3985.00	188.36	65.36
235	35.38	4038.83	3987.00	188.03	65.89
236	9.00	4037.87	3985.00	187.87	65.99
237	8.00	4038.89	3978.00	187.89	65.82
238	6.00	4038.85	3978.00	187.85	65.81
239	35.48	4037.80	3978.00	187.86	65.78
240	35.38	4037.87	3983.00	188.87	65.78
241	9.00	4037.88	3984.00	188.88	65.36
242	31.38	4037.82	3986.00	188.82	65.64
243	8.00	4037.98	3990.00	187.98	65.39
244	8.00	4038.05	3991.00	188.05	65.46
245	33.48	4038.93	3991.00	188.93	65.30
246	34.46	4038.38	3981.00	188.08	66.70
247	34.34	4038.31	3978.00	188.31	65.97
248	9.48	4038.38	3978.00	188.38	65.67
249	9.00	4037.74	3975.00	188.74	66.02
250	8.00	4037.93	3978.00	188.91	65.64
251	9.38	4038.01	3978.00	187.91	65.91
252	8.00	4038.06	3976.00	188.01	66.08
253	9.38	4038.05	3973.00	188.02	65.66
254	8.00	4038.26	3976.00	188.30	66.07
255	9.48	4038.03	3975.00	188.03	65.85
256	8.00	4037.84	3976.00	188.09	65.87
257	9.38	4037.78	3977.00	188.49	65.38
258	137.80	4038.11	3978.00	188.31	65.57
259	8.00	4038.03	3978.00	188.03	65.19
260	1.38	4038.58	3976.00	187.98	65.29
261	9.00	4038.71	3978.00	188.71	65.91
262	8.00	4038.72	3978.00	188.75	65.68
263	8.00	4038.87	3978.00	188.87	66.03
264	8.00	4038.67	3979.00	188.66	66.58
265	8.00	4038.66	3979.00	188.66	66.58
266	8.00	4038.66	3979.00	188.66	66.58
267	8.00	4038.87	3980.00	188.87	65.98
268	8.00	4038.38	3980.00	188.63	65.94
269	9.00	4038.36	3983.00	188.36	65.68
270	8.38	4038.83	3980.00	188.83	65.84
271	8.38	4038.83	3988.00	188.83	66.36



378	16.34	4210.22	6140 00	70 21	36.43
379	17 35	4278 34	6183 00	95 34	41 31
380	17 35	4278 40	6192.00	86.40	37 44
381	437 50	4221 06	3872 00	151.06	65 66
382	0 00	4029.35	3872 00	157 29	68 16
383	0 30	4021 97	3871.00	154 97	67 15
384	0 33	4031 46	3873 00	150.46	65 17
385	0 33	4031 35	3875.00	150.35	65 71
386	0 38	4031 43	3874 00	150.43	65 22
387	0 30	4031 46	3870 00	150.46	65 33
388	0 30	4031.50	3877 00	154 50	66.95
389	0 33	4031.54	3875 00	154 54	67 33
390	0 38	4031.63	3875.00	151 63	65 29
391	0 33	4031.50	3873 00	150 50	64 64
392	0.38	4032 04	3880.00	152.04	65.88
393	0 38	4031.44	3880 00	151.44	56.56
394	0 00	4032.53	3880.00	152 53	66 13
395	0 38	4033.94	3881.00	147.76	64 32
396	0.58	4032.78	3885.00	149.78	64.06
397	0.00	4031 30	3887.00	144.30	63.33
398	0 00	4033.20	3889 00	144.20	63.69
399	0 00	4033.30	3889 00	144.30	63.65
400	0 00	4032 91	3889.00	143.91	63.36
401	0.00	4032.30	3890 00	138.96	60.22
402	0.38	4033 02	3890.00	139 02	60.26
403	0.00	4033.01	3890 00	139 01	59.27
404	0 00	4033.05	3891.00	138.05	59.81
405	0 00	4033.11	3892.00	138 11	59 85
406	0 00	4034.31	3892.00	139.31	60 37
407	0.00	4033 38	3892.00	138.38	59 97
408	0.00	4033 00	3892.00	138.00	59 80
409	0.00	4034.00	3883.00	151.00	65 50
410	0.00	3884 91	3883.00	4.91	1 82
411	0.00	3993.29	3946.15	31 14	10.91
412	0 00	4152.99	3946.16	184 99	80 11
413	0 00	4110.73	4099.95	39 23	8 34
414	0 00	3917.39	3892.76	37.29	11 82
415	1004 44	4007.85	3888.00	45 35	19.76
416	0.00	3979 63	3949 00	34 63	8 34
417	0.00	3992 39	3948 00	84.00	18 40

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psi)	JUNCTION NUMBER	MINIMUM PRESSURE (psi)
323	87.66	388	2.82
428	87 82	333	5.15
427	84.87	358	5.75
324	85.11	338	6.56
364	77.20	363	8.36

VELOCITIES

PIPE NUMBER	MAXIMUM VELOCITY (ft/sec)	PIPE NUMBER	MINIMUM VELOCITY (ft/sec)
167	98 93	623	0 00
168	68.64	328	0 00
816	36.48	321	0 00
699	36.30	698	0 00
608	38.43	698	0 00

REGULATING VALVE REPORT

RV LABEL	VALVE TYPE	POSITION NODE	CONTROLLED PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM TRACE (ft)	DOWNSTREAM TRACE (ft)	THROUGH FLOW (gpm)
R1	PRV	1	366	647	4219.40	THROTTLED	4279 94	4210 40	199 20

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm)	NODE TYPE
10	197	1865.76	Tank 7090
60	193	+2366 94	Tank 7080
80	643	-1860 19	Tank 7261
70	686	934.63	Tank 7291
63	698	193.94	Tank 7275
11	618	4228.10	Tank 1316
33	631	4228.23	Tank 1339
20	614	4334.54	Tank 3190, 91, 92
50	612	-1876.65	Tank 7090
90	714	318.65	Tank 7080

CHANGES FOR NEXT SIMULATION

DEMAND CHANGES

DEMAND TYPE = 1 - EXP = 1.700

PIPE PARAMETER CHANGES

STATUS CODE XX -CLOSED PIPE FG -FIXED GRADE NODE PJ -PUMP JUNC
CV -CHECK VALVE RV -REGULATING VALVE

PIPE NUMBER	NODE NO1 01	NODE NO2 02	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF	MINOR LOSS COEFF	POW-HOL (ft)
623-PU	823	526	70.0	16.0	125.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 12							
618-PU	523	521	75.0	16.0	130.00	0.00	0.00
THE PUMP IDENTIFYING NUMBER (ID) = 11							

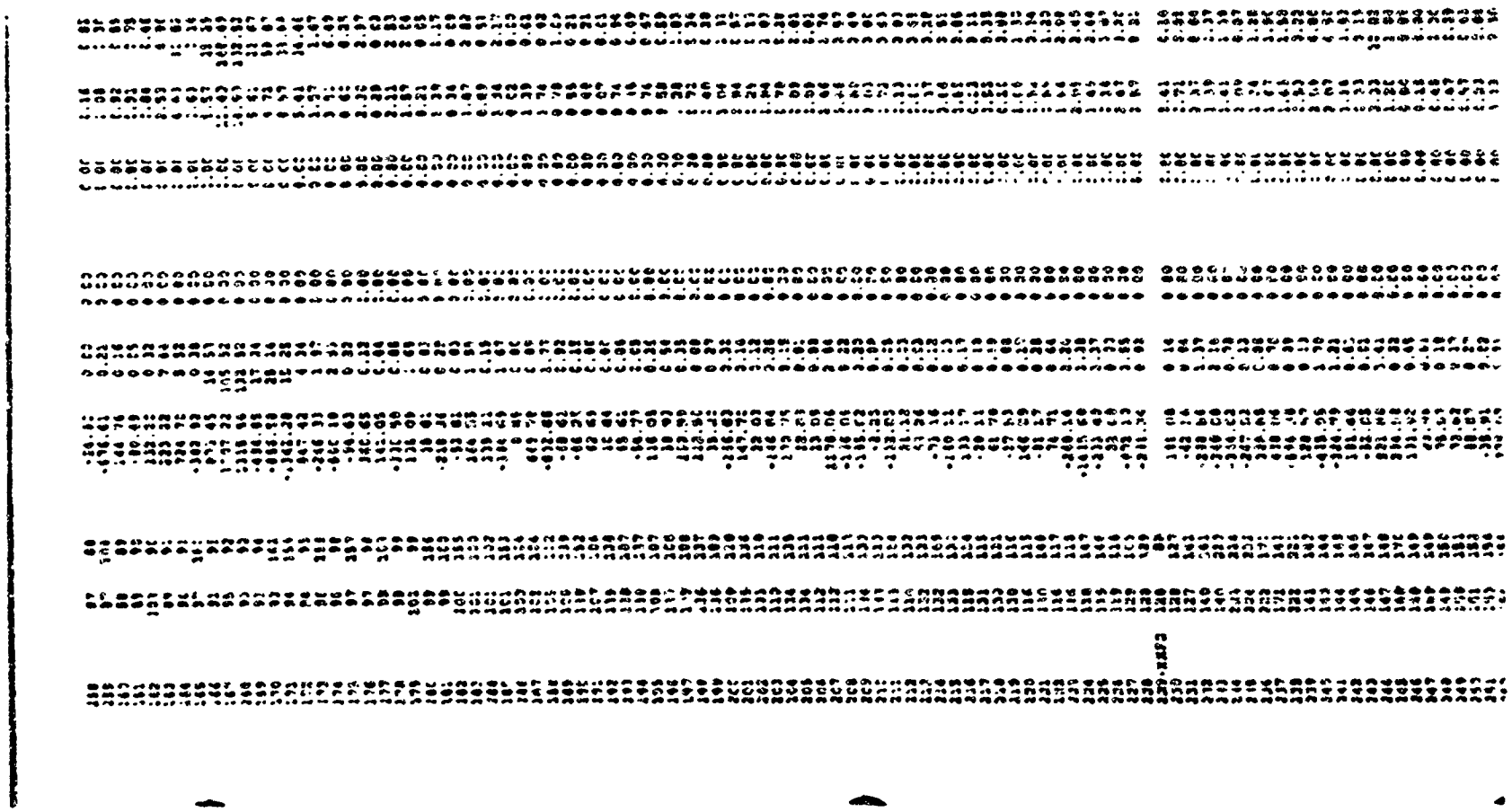
SIMULATION RESULTS

THE RESULTS ARE OBTAINED AFTER 6 TRIALS WITH AN ACCURACY = 0.000143

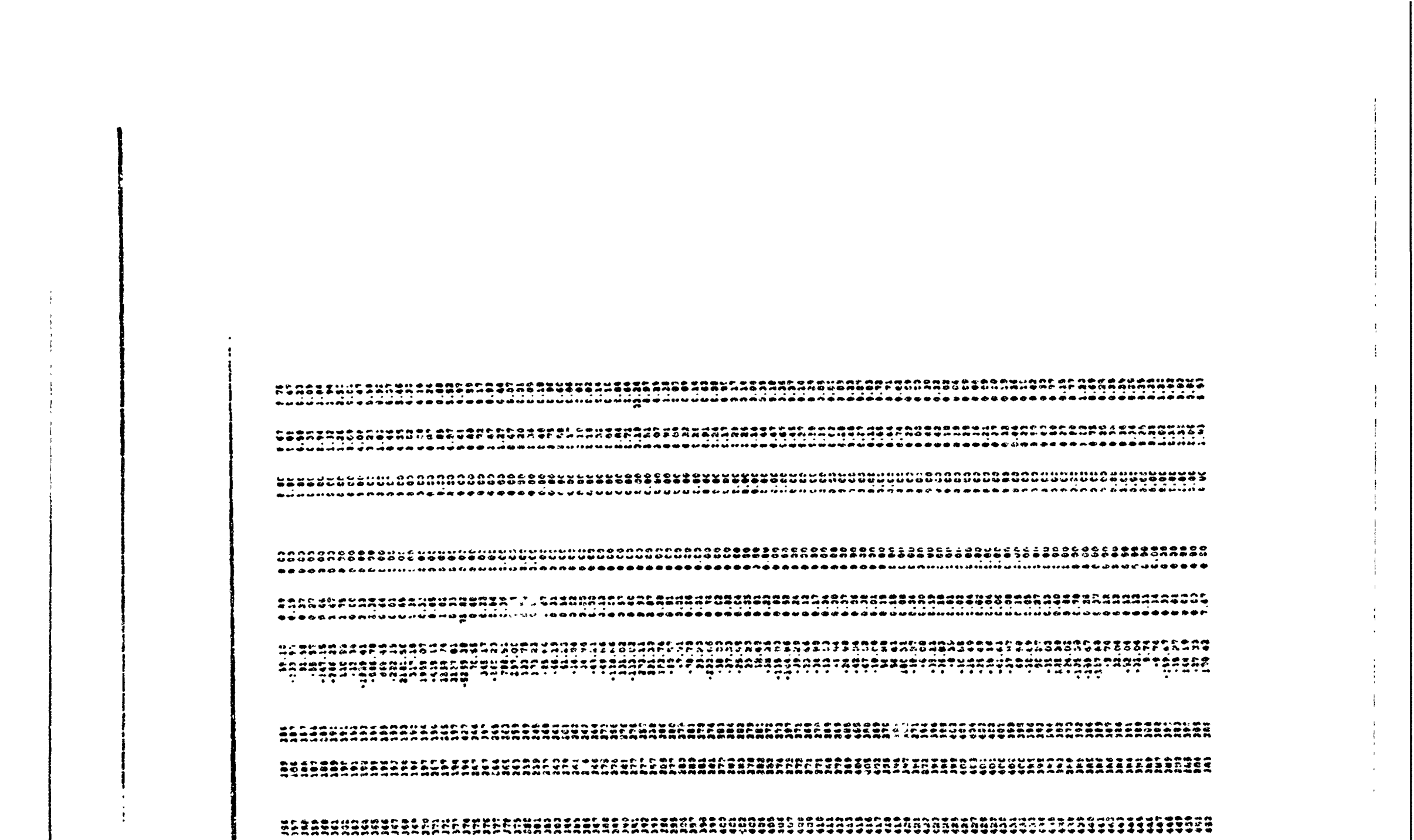
PIPELINE RESULTS

STATUS CODE XX -CLOSED PIPE FG -FIXED GRADE NODE PU -PUMP LINE
CV -CHECK VALVE RV -REGULATING VALVE TK -STORAGE TANK

PIPE NUMBER	NODE NO1 01	NODE NO2 02	FLOWRATE (gpm)	HEAD LOSS (ft)	PUMP HEAD (ft)	PUMP LABEL	PIPEOP LOSS (ft)	LOSS VELO (ft/s)	RE/ LOSS (ft/ft)
1	1	2	22.45	0.09	0.00		0.00	0.28	0.07
2	2	3	51.62	0.03	0.00		0.00	0.59	0.13
3	3	4	245.38	1.16	0.00		0.00	1.19	1.23
4	4	5	-19.69	0.04	0.00		0.00	0.22	0.00
5	4	6	-46.97	0.01	0.00		0.00	0.17	0.03
6	6	8	9.47	0.01	0.00		0.00	0.11	0.01
7	6	7	-96.59	0.26	0.00		0.00	1.11	0.06
8	5	5	143.04	0.38	0.00		0.00	1.17	1.19
9	5	3	142.37	0.36	0.00		0.00	3.44	0.93
10	10	3	32.33	0.09	0.00		0.00	0.37	0.25
11	11	1	26.49	0.03	0.00		0.00	0.30	0.15
12	11	12	-32.06	0.06	0.00		0.00	0.36	0.04
13	10	9	31.61	0.06	0.00		0.00	0.36	0.04
14	9	8	168.44	1.09	0.00		0.00	1.91	2.04
15	8	7	8.58	0.01	0.00		0.00	0.10	0.01
16	7	18	-39.33	0.19	0.00		0.00	0.45	0.20
17	21	18	57.58	0.43	0.00		0.00	0.65	0.48
18	18	19	-2.71	0.00	0.00		0.00	0.04	0.00
19	19	9	65.91	0.19	0.00		0.00	0.76	0.61
20	20	19	78.67	0.26	0.00		0.00	0.86	1.23
21	17	22	86.71	0.36	0.00		0.00	0.42	0.26
22	17	18	-96.71	0.36	0.00		0.00	0.42	0.37
23	20	16	-88.81	0.26	0.00		0.00	0.44	0.29
24	16	15	-166.78	1.17	0.00		0.00	1.34	1.31
25	15	14	167.00	0.21	0.00		0.00	1.23	1.17
26	16	9	262.17	0.93	0.00		0.00	1.41	2.00
27	27	13	327.40	0.02	0.00		0.00	0.92	0.32
28	24	14	143.46	0.39	0.00		0.00	0.93	0.99
29	27	28	113.72	0.26	0.00		0.00	0.73	0.66
30	14	13	43.99	0.21	0.00		0.00	0.28	0.11
31	13	12	98.95	0.21	0.00		0.00	0.67	0.77
32	12	11	46.69	0.15	0.00		0.00	0.51	0.45
33	12	11	14.77	0.06	0.00		0.00	0.17	0.06
34	26	25	36.03	0.14	0.00		0.00	0.41	0.11
35	33	34	-19.11	0.31	0.00		0.00	0.21	0.12
36	33	13	35.83	0.07	0.00		0.00	0.41	0.10
37	33	32	-21.04	0.02	0.00		0.00	0.24	0.11
38	32	28	33.76	0.03	0.00		0.00	0.32	0.07
39	31	32	84.83	0.05	0.00		0.00	0.62	0.08
40	32	31	-637.74	0.14	0.00		0.00	1.26	0.01
41	31	28	134.79	0.14	0.00		0.00	1.33	0.04
42-PUMP	33	AA	871.82	0.31	0.00		0.00	1.42	0.05
43	31	30	79.48	1.16	0.00		0.00	0.58	1.32
44	29	30	140.32	0.04	0.00		0.00	0.61	0.20
45	26	29	263.34	0.12	0.00		0.00	0.85	0.30
46	28	30	-32.43	0.01	0.00		0.00	0.09	0.01
47	26	27	30.81	0.04	0.00		0.00	0.25	0.03
48	29	30	24.84	0.00	0.00		0.00	0.20	0.00
49	27	27	43.24	0.11	0.00		0.00	0.46	0.21
50	28	27	-36.46	0.00	0.00		0.00	0.13	0.01
51	28	23	-332.10	0.06	0.00		0.00	0.46	0.10
52	23	42	11.71	0.02	0.00		0.00	0.16	0.01
53	24	41							



157	159	161	-670.24	1.82	0.30	0.00	1.66	15.19	
158	161	161	-1643.16	1.87	0.50	0.00	11.65	43.28	
159	161	163	645.32	0.96	0.00	0.00	4.25	9.34	
160	163	163	-198.06	1.79	0.50	0.00	2.28	3.98	
161	163	164	-271.84	1.43	0.00	0.00	3.06	7.35	
162	166	159	620.90	1.58	0.00	0.00	2.65	3.95	
163	326	165	-169.79	1.82	0.00	0.00	1.01	2.67	
164	167	159	344.32	1.17	0.00	0.00	2.22	2.73	
165	157	182	-402.47	4.37	0.00	0.00	3.57	3.66	
166	302	164	327.98	4.86	1.00	0.00	2.59	2.49	
167	163	223	-205.70	4.33	0.00	0.00	1.82	1.93	
168	159	166	1.60	0.07	0.00	0.00	0.22	0.00	
169	166	181	68.75	1.16	0.00	0.00	0.87	0.41	
170	166	167	-69.39	1.28	0.00	0.00	0.97	0.41	
171	165	181	100.22	0.26	0.00	0.00	1.88	0.97	
172	182	167	-33.78	0.82	0.00	0.00	0.23	0.07	
173	167	166	-144.35	0.19	0.00	0.00	0.59	0.28	
174	179	180	76.82	0.18	0.00	0.00	0.69	0.31	
175	179	168	-7.68	0.00	0.00	0.00	0.58	0.00	
176	168	158	8.85	0.93	0.00	0.00	0.88	0.00	
177	168	169	-155.94	0.19	0.00	0.00	0.66	0.28	
178	178	179	74.25	0.18	0.00	0.00	0.67	0.29	
179	178	169	2.96	0.00	0.00	0.00	0.21	0.00	
180	169	178	-165.99	0.22	0.00	0.00	0.74	0.42	
181	177	178	93.32	0.18	0.00	0.00	0.91	0.33	
182	177	170	-113.65	0.84	0.00	0.00	0.48	0.18	
183	177	233	-616.64	2.43	0.50	0.00	2.76	4.86	
184	168	176	-1301.91	2.13	0.00	0.00	2.98	3.55	
185	175	176	-193.78	2.96	0.00	0.00	2.30	7.01	
186	175	164	96.60	1.38	0.00	0.00	1.37	1.66	
187	163	173	-230.67	0.88	0.00	0.00	1.07	2.38	
188	176	175	-165.23	1.03	0.00	0.00	1.09	4.11	
189	173	174	-268.46	1.27	0.00	0.00	1.71	3.14	
190	172	173	-17.36	0.83	0.00	0.00	0.11	0.01	
191	172	171	86.21	0.88	0.00	0.00	0.81	0.26	
192	172	224	-164.76	1.03	0.00	0.00	1.18	1.22	
193	191	167	-17.29	0.11	0.00	0.00	0.13	0.02	
194	221	226	252.91	0.13	0.00	0.00	1.03	0.76	
195	221	220	-648.89	3.20	0.00	0.00	2.41	3.04	
196	176	227	-132.23	0.61	0.00	0.00	0.99	0.85	
197	175	228	-62.35	0.63	0.00	0.00	0.71	0.06	
198	176	225	10.85	0.09	0.00	0.00	0.06	0.01	
199	176	219	-1596.61	2.84	0.00	0.00	3.33	4.62	
200	220	219	-1868.39	2.84	0.00	0.00	6.43	9.42	
201	224	218	-361.23	0.89	0.00	0.00	1.96	1.32	
202	225	226	-607.66	0.26	0.00	0.00	1.38	1.09	
203	228	227	+602.79	0.48	0.00	0.00	1.71	1.61	
204	227	228	+941.28	1.83	0.00	0.00	2.47	3.69	
205	228	229	+1911.38	1.68	0.00	0.00	7.07	6.31	
206	229	225	-724.69	0.89	0.00	0.00	2.91		
207	229	226	-1834.57	1.23	0.00	0.00	3.47		
208	226	218	-1619.56	0.78	0.00	0.00	4.62	7.05	
209	230	231	188.41	0.03	0.00	0.00	0.93	0.19	
210	231	217	-869.62	0.22	0.00	0.00	1.72	3.19	
211	218	217	1221.98	0.98	0.00	0.00	4.99	14.85	
212	218	219	-2626.66	0.96	0.00	0.00	8.49	11.78	
213	219	221	-5794.66	1.49	0.00	0.00	9.73	29.76	
214	216	221	-4861.72	0.87	0.00	0.00	8.39	27.48	
215	216	197	1989.93	0.89	0.00	0.00	4.18	0.63	
216	249	214	-3883.19	0.35	0.00	0.00	9.63	3.74	2.66
217	216	217	-985.[illegible]	0.83	0.00	0.00	0.30	3.89	5.13
218	221	223	693.68	0.78	0.00	0.00	0.33	2.89	8.33
219	218	214	210.07	0.86	0.00	0.00	0.89	0.86	0.96
220	214	213	697.68	0.87	0.00	0.00	0.33	2.99	4.89
221	213	213	1.02	0.00	0.00	0.00	0.33	0.01	0.00
222	213	211	0.00	0.00	0.00	0.00	0.33	0.00	0.00
223	181	204	183.93	1.19	0.00	0.00	0.69	1.21	1.67
224	214	210	488.48	2.88	0.00	0.00	0.70	1.98	1.62
225	210	208	212.40	1.48	0.00	0.00	0.58	1.49	1.16
226	210	209	863.94	2.47	0.00	0.00	0.33	1.64	3.35
227	209	208	26.48	0.00	0.00	0.00	0.33	0.26	0.00
228	208	206	254.91	1.66	0.00	0.00	0.33	1.63	1.67
229	209	207	223.41	1.13	0.00	0.00	0.69	1.43	2.28
230	207	206	179.67	0.93	0.00	0.00	0.35	1.18	1.55
231	206	205	432.98	1.92	0.00	0.00	0.88	3.77	7.48
232	207	205	41.69	0.03	0.00	0.00	0.33	0.27	0.10
233	205	234	239.62	2.23	0.00	0.00	0.38	1.47	2.37
234	204	207	-51.41	0.48	0.00	0.00	0.39	0.58	0.61
235	203	240	31.49	0.01	0.00	0.00	0.88	0.24	0.13
236	203	202	-232.67	0.86	0.00	0.00	0.88	2.26	2.42
237	203	253	-681.41	0.48	0.00	0.00	0.88	3.29	8.67
238	203	222	-194.14	0.83	0.00	0.00	0.89	0.98	0.68
239	223	221	48.84	0.08	0.00	0.00	0.88	0.31	0.13
240	222	220	-286.32	0.81	0.00	0.00	0.38	0.43	0.18
241	222	204	-219.82	0.21	0.00	0.00	0.39	2.32	1.34
242	260	199	-319.98	0.32	0.00	0.00	0.80	1.21	0.78
243	200	183	618.96	0.11	0.00	0.00	0.80	2.83	0.66
244	199	198	673.78	2.87	0.00	0.00	0.88	1.03	3.76
245	198	198	-46.80	0.37	0.00	0.00	0.80	0.76	0.55
246	198	183	666.81	3.31	0.00	0.00	0.38	2.98	4.79
247	183	181	-81.18	0.38	0.00	0.00	0.33	0.49	0.35
248	183	184	-93.41	0.46	0.00	0.00	0.38	1.09	0.97
249	198	184	438.86	2.02	0.00	0.00	0.39	2.81	4.39
250	183	166	604.01	4.35	0.00	0.00	0.85	3.28	6.92
251	168	172	649.66	4.71	0.00	0.00	0.87	4.13	8.74



187	382	381	-284.76	3.76	0.89	0.00	1.82	3.83
187	338	336	-135.13	6.43	0.53	0.00	2.22	7.11
188	284	284	-138.14	0.38	0.03	0.00	1.47	3.26
189	284	282	-83.52	0.26	0.53	0.00	0.98	1.46
193	338	337	-44.60	0.44	0.59	0.00	0.46	0.79
191	338	339	-9.99	0.01	0.59	0.00	0.11	0.02
192	337	339	-67.18	0.38	0.50	0.00	0.70	0.89
193	339	339	69.90	0.98	0.00	0.00	0.78	1.56
194	338	341	68.68	0.16	0.59	0.00	0.78	1.03
195	341	342	42.12	0.38	0.50	0.00	0.48	0.92
196	343	344	15.14	0.29	0.38	0.00	0.31	0.47
197	345	346	67.05	0.61	0.38	0.00	0.76	0.99
198	347	348	37.01	0.08	0.00	0.00	0.35	0.21
199	347	348	-10.03	0.00	0.00	0.00	0.12	0.01
200	346	343	-56.26	0.36	0.38	0.00	0.57	0.31
191	343	341	-95.49	0.26	0.00	0.00	1.01	1.03
202	343	340	-68.87	0.31	0.00	0.00	0.78	1.03
193	340	340	-819.76	0.53	0.00	0.00	1.29	0.73
204	340	338	246.89	0.58	0.00	0.00	1.11	0.75
205	336	339	320.07	1.11	0.00	0.00	1.46	2.46
206	339	339	338.59	0.89	0.00	0.00	1.46	1.37
207	340	341	-101.64	0.07	0.00	0.00	1.18	1.16
208	340	665	1845.68	5.00	0.00	0.00	0.21	7.36
209	340	349	2238.97	32.86	0.00	0.00	4.62	5.69
210	325	324	-2.99	0.00	0.00	0.00	0.02	0.00
211	325	324	-2.48	0.00	0.00	0.00	0.03	0.00
212	323	323	-34.71	0.04	0.00	0.00	0.19	0.03
213	321	320	-31.08	0.19	0.00	0.00	0.36	0.14
214	319	319	6.59	0.02	0.00	0.00	0.09	0.01
215	317	316	-6.21	0.02	0.00	0.00	0.06	0.01
216	316	318	8.67	0.00	0.00	0.00	0.01	0.00
217	313	312	6.81	0.00	0.00	0.00	0.01	0.00
218	312	312	-31.06	0.10	0.00	0.00	0.28	0.12
219	311	309	33.01	0.10	0.00	0.00	0.26	0.14
220	311	292	-65.21	0.61	0.00	0.00	0.93	0.65
221	291	293	98.68	0.13	0.00	0.00	0.40	0.14
222	292	293	10.47	0.00	0.00	0.00	0.08	0.00
223	295	294	-844.13	0.48	0.00	0.00	1.35	0.74
224	295	297	41.09	0.20	0.00	0.00	0.40	0.23
225	296	299	-66.44	0.41	0.00	0.00	0.96	0.39
226	298	329	246.38	3.18	0.00	0.00	0.42	1.12
227	336	335	-178.11	3.37	0.00	0.00	3.09	3.37
228	336	338	-259.98	0.16	0.00	0.00	0.92	0.63
229	339	336	-297.86	1.39	0.00	0.00	1.58	1.93
230	338	336	948.76	6.30	0.00	0.00	1.26	3.30
231	348	347	826.87	6.12	0.00	0.00	0.93	0.64
232	391	347	-259.96	0.26	0.00	0.00	1.08	0.81
233	318	321	-133.49	0.75	0.00	0.00	1.81	0.91
234	313	312	-137.31	0.67	0.00	0.00	1.68	0.90
235	314	313	-136.40	0.72	0.00	0.00	1.59	0.66
236	317	316	-139.73	0.69	0.00	0.00	1.11	0.63
237	318	317	-149.96	0.79	0.00	0.00	1.46	0.89
238	321	318	-113.31	0.46	0.00	0.00	1.81	0.01
239	322	322	-58.79	0.09	0.00	0.00	0.67	0.32
240	325	322	-38.66	0.03	0.00	0.00	0.42	0.17
241	323	323	-48.73	0.08	0.00	0.00	0.82	0.26
242	323	320	-81.12	0.24	0.00	0.00	0.92	0.72
243	320	319	-126.51	0.25	0.00	0.00	1.46	1.78
244	318	319	135.92	0.77	0.00	0.00	1.26	0.99
245	316	318	-187.14	0.67	0.00	0.00	1.44	0.81
246	315	310	-146.47	0.72	0.00	0.00	1.67	0.10
247	310	309	-158.66	0.72	0.00	0.00	1.63	0.14
248	309	291	-119.48	0.82	0.00	0.00	1.31	0.67
249	291	294	389.00	0.02	0.00	0.00	0.01	0.17
250	294	324	-424.13	2.07	0.00	0.00	1.92	0.62
251	323	245	-816.69	0.97	0.00	0.00	2.11	0.95
252	245	244	-624.74	0.01	0.00	0.00	2.16	0.19
253	244	243	-239.84	0.03	0.00	0.00	1.81	0.11
254	243	242	-232.89	0.27	0.00	0.00	1.69	0.13
255	242	241	-79.22	0.04	0.00	0.00	0.65	0.24
256	241	260	26.85	0.59	0.00	0.00	0.11	0.01
257	263	239	-192.37	1.81	0.00	0.00	0.78	0.15
258	235	239	924.62	1.33	0.00	0.00	3.78	0.13
259	263	234	-59.66	0.01	0.00	0.00	1.13	0.01
260	234	235	-148.20	0.70	0.00	0.00	2.82	0.78
261	234	233	230.43	0.91	0.00	0.00	2.07	1.33
262	262	287	-199.05	0.00	0.00	0.00	1.20	1.03
263	263	233	-97.58	0.01	0.00	0.00	0.68	0.79
264	233	232	139.74	0.12	0.00	0.00	0.80	0.58
265	266	233	-326.83	0.92	0.00	0.00	2.33	1.26
266	232	225	-158.93	0.06	0.00	0.00	0.81	0.63
267	267	296	-369.49	2.05	0.00	0.00	1.97	1.81
268	296	295	-433.76	1.08	0.00	0.00	1.77	0.52
269	295	295	421.58	0.09	0.00	0.00	1.00	1.93
270	306	305	-69.13	0.36	0.00	0.00	0.74	0.11
271	327	307	-328.27	0.02	0.00	0.00	2.15	0.00
272	306	307	-15.01	0.02	0.00	0.00	0.19	0.03
273	305	307	-322.42	0.32	0.00	0.00	1.92	0.18
274	326	304	26.14	0.00	0.00	0.00	0.23	0.04
275	327	326	13.72	0.00	0.00	0.00	0.16	0.03
276	327	328	-34.19	0.04	0.00	0.00	0.29	0.16
277	328	326	32.72	0.06	0.00	0.00	0.37	0.16
278	326	306	-177.45	0.24	0.00	0.00	0.84	0.70
279	333	308	-339.03	1.56	0.00	0.00	1.48	1.38
280	306	304	-59.94	0.08	0.00	0.00	0.38	0.21

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838	838	838	1	0	1	19	1	11			11	1	6.	1 01
[illegible]	700	700	1	0	1	72	1	32			1	1	6.	1 01
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838 [illegible]	838	838												
[illegible]	838	838												
[illegible]	838	838	1	0	1	32	1	32			1	1	6.	1 01

JUNCTION MODE PROFILE

JUNCTION NUMBER	JUNCTION TITLE	EXTERNAL DEMAND (GPM)	HYDRAULIC GRADE (FT)	JUNCTION ELEVATION (FT)	PRESSURE HEAD (PSI)	JUNCTION ELEVATION (PSI)
1		2 [illegible]	1971 [illegible]	1935 [illegible]	78 [illegible]	33 [illegible]
2		3 [illegible]	1971 [illegible]	1935 [illegible]	77 [illegible]	34 [illegible]
3		48 [illegible]	1970 [illegible]	1930 [illegible]	78 [illegible]	34 [illegible]
4		139 [illegible]	1972 [illegible]	1930 [illegible]	77 [illegible]	34 [illegible]
5		61 [illegible]	1971 [illegible]	1937 [illegible]	83 [illegible]	30 [illegible]
6		72 [illegible]	1971 [illegible]	1939 [illegible]	77 [illegible]	33 [illegible]
7		36 [illegible]	1971 [illegible]	1937 [illegible]	83 [illegible]	33 [illegible]
8		66 [illegible]	1971 [illegible]	1938 [illegible]	79 [illegible]	34 [illegible]
9		11 [illegible]	1970 [illegible]	1938 [illegible]	80 [illegible]	35 [illegible]
10		7 [illegible]	1970 [illegible]	1936 [illegible]	79 [illegible]	36 [illegible]
11		8 [illegible]	1970 [illegible]	1937 [illegible]	92 [illegible]	21 [illegible]
12		6 [illegible]	1970 [illegible]	1937 [illegible]	78 [illegible]	31 [illegible]
13		6 [illegible]	1970 [illegible]	1939 [illegible]	78 [illegible]	34 [illegible]
14		6.00	1970 [illegible]	1938 [illegible]	81 [illegible]	35 [illegible]
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32		0 [illegible]	1970 [illegible]	1939 [illegible]	82 [illegible]	36 [illegible]
33		0 [illegible]	1970 [illegible]	1939 [illegible]	82 [illegible]	36 [illegible]
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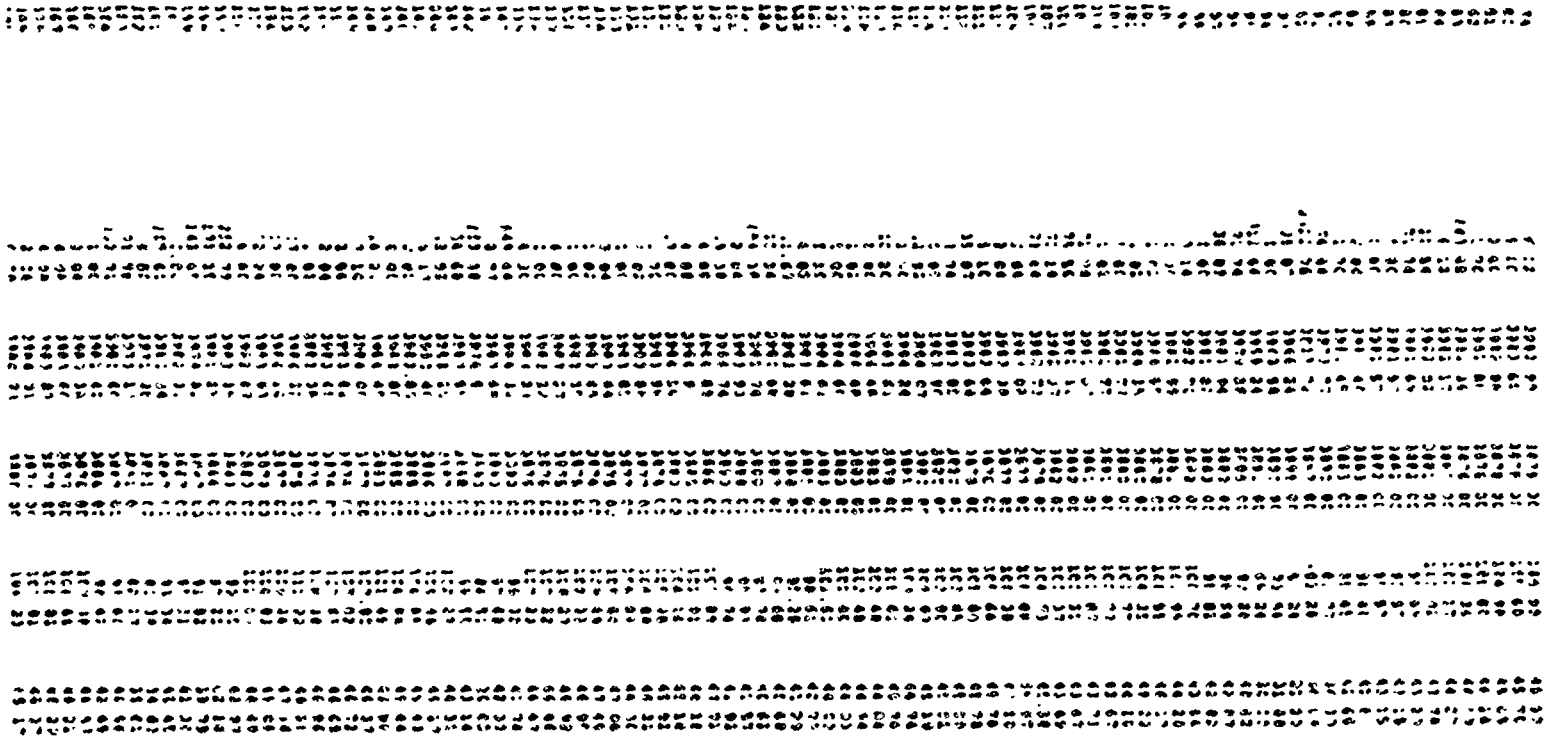
100		0 [illegible]	1970 [illegible]	1939 [illegible]	82 [illegible]	36 [illegible]



178	4.28	3996.2.	3877.81	109.01	46.37
179	5.10	3993.82	3877.01	116.62	46.29
180	4.26	3993.46	3877.01	116.64	46.31
181	5.11	3993.25	3876.81	117.38	46.40
182	129.65	3886.93	3880.69	106.82	46.36
183	2.24	3996.69	3887.01	109.67	45.30
184	3.41	3987.33	3885.93	111.33	44.34
185	2.41	3988.19	3888.93	100.19	43.41
186	4.41	3988.84	3893.69	95.65	41.63
187	13.61	3984.11	3889.89	94.24	43.73
188	0.00	3989.21	3889.00	99.21	43.87
189	0.00	3989.76	3890.80	99.76	43.52
190	0.00	3991.20	3888.00	103.22	44.71
191	5.10	3988.47	3888.05	101.47	43.97
192	0.00	3989.67	3887.20	104.67	45.29
193	0.00	3992.65	3883.60	107.60	46.61
194	0.00	3993.26	3885.00	108.26	46.91
195	0.00	3992.29	3880.00	106.25	46.04
196	92.76	3992.89	3788.00	107.99	46.62
197	0.00	3993.93	3888.00	105.93	46.77
198	73.92	3989.88	3882.00	106.88	47.10
199	71.74	3991.99	3880.00	111.99	48.51
200	71.74	3991.61	3879.00	112.61	48.81
20	1.02	3991.62	3579.00	112.62	48.80
202	1.10	3991.10	3878.00	113.10	50.31
203	11.30	3992.85	3878.00	114.85	50.34
204	715.02	3979.86	3878.00	101.86	46.46
205	3.04	3982.09	3875.00	107.09	46.41
206	2.01	3981.78	3878.00	103.78	46.27
207	2.00	3982.11	3876.00	106.11	46.98
208	2.00	3982.24	3875.00	107.24	46.80
209	2.00	3982.24	3876.00	107.24	46.47
210	6.04	3984.73	3878.00	106.71	46.01
211	0.00	3986.61	3878.00	10.01	47.93
212	0.00	3986.6.	3878.00	108.65	47.07
213	0.00	3986.8	3882.00	104.61	42.33
214	0.00	3987.89	3881.00	106.89	46.18
215	19.16	3989.64	3881.00	106.64	46.21
216	0.00	3991.79	3880.00	110.75	47.99
217	0.00	3993.02	3878.00	110.02	47.97
218	0.00	3994.30	3880.00	109.30	47.32
219	0.00	3991.11	3880.00	111.93	47.72
220	7.75	3992.89	3892.00	102.89	46.66
221	0.00	3989.39	3885.00	96.39	46.95
222	0.00	3989.30	3885.00	96.30	46.96
223	9.74	3988.67	3885.00	91.67	39.66
224	0.00	3985.17	3885.00	94.17	40.81
225	0.00	3989.84	3890.00	94.84	42.85
226	13.36	3989.82	3893.00	96.82	41.83
227	6.66	3986.61	3887.00	99.61	42.96
228	7.75	3981.64	3890.00	101.64	43.78
229	8.17	3982.69	3893.00	102.89	44.38
230	8.58	3989.91	3886.00	103.91	45.95
231	8.17	3982.39	3886.00	103.39	45.96
232	10.34	3989.83	3885.00	96.83	43.83
233	15.32	3989.30	3882.00	96.35	41.78
234	18.38	3990.00	3880.00	110.06	43.36
235	25.86	3990.76	3887.00	103.76	46.96
236	19.99	3987.69	3886.00	107.69	46.80
237	26.12	3986.12	3875.00	110.12	47.92
238	19.56	3986.11	3875.00	110.11	47.92
239	49.15	3986.10	3876.00	110.10	47.71
240	42.66	3993.24	3883.00	106.25	46.64
241	33.98	3989.26	3884.00	105.25	45.61
242	26.18	3989.45	3884.00	105.25	46.72
243	41.63	3988.86	3891.00	98.86	42.81
244	1.32	3988.28	3891.00	97.31	42.17
245	21.62	3986.30	3891.00	95.30	41.33
246	25.55	3985.89	3881.00	104.89	45.46
247	11.53	3985.69	3878.00	107.69	47.01
248	5.12	3984.80	3878.00	105.80	47.10
249	6.04	3981.41	3878.00	103.41	44.81
250	9.10	3980.37	3875.00	105.37	45.78
251	9.23	3980.16	3877.00	103.16	47.65
252	6.18	3984.68	3878.00	106.68	46.89
253	6.23	3984.79	3877.00	107.79	47.14
254	0.00	3984.42	3878.00	106.42	46.93
255	1.32	3984.67	3878.00	105.67	47.53
256	0.00	3984.84	3878.00	106.84	46.98
257	0.00	3980.52	3878.00	102.52	47.03
258	215.98	3979.46	3878.00	101.46	46.65
259	0.00	3981.69	3878.00	103.69	45.78
260	2.04	3980.93	3878.00	102.93	46.85
261	0.00	3980.66	3878.00	102.66	46.33
262	0.00	3978.94	3878.00	100.94	48.77
263	0.00	3983.94	3878.00	105.94	46.91
264	0.00	3981.97	3878.00	103.97	46.91
265	0.00	3983.93	3879.00	104.93	46.82
266	5.13	3981.86	3878.00	103.86	46.91
267	5.45	3982.35	3880.00	102.35	46.66
268	11.69	3982.86	3876.00	106.86	46.82
269	3.12	3982.08	3883.00	99.08	43.54

377	6.22	3893.46	2492.00	118.46	51.33
378	7.01	3951.43	2876.03	115.43	52.65
379	8.04	3991.35	2876..39	117.38	53.06
380	8.12	3991.37	2873.63	116.37	51.79
381	8.06	3991.43	2876.98	115.43	53.62
382	8.02	3991.44	2876.03	115.44	53.63
383	8.01	3991.43	2875.03	116.42	53.44
384	8.00	3991.42	2876.35	117.42	53.88
385	8.10	3991.42	2873.82	118.42	51.32
386	233.78	3973.36	2870.00	123.38	44.86
387	8.02	3984.69	2873.00	111.69	48.46
388	8.03	3984.69	2875.00	110.69	47.83
389	8.00	3982.89	2872.00	117.79	48.66
390	8.03	3981.43	2870.00	111.40	48.27
391	28.86	3985.45	2878.00	122.45	47.41
392	31.21	3985.33	2880.38	108.33	45.84
393	28.76	3985.32	2880.00	92.32	41.31
394	8.03	3985.30	2881.00	86.38	40.06
395	8.03	3986.82	2880.00	90.83	39.35
396	30.67	3983.73	2905.00	78.73	34.12
397	8.08	3980.89	2900.00	20.89	9.05
398	28.73	4014.31	2925.00	89.31	38.64
399	13.32	4014.20	2910.00	96.38	40.02
400	28.67	4014.20	2920.00	94.20	40.82
401	20.67	4014.27	2940.00	76.27	33.23
402	20.67	4014.24	2960.00	76.24	33.44
403	23.26	4014.18	2918.00	99.18	42.84
404	28.76	3983.97	2910.00	73.97	31.84
405	16.79	3981.93	2885.00	68.93	28.84
406	15.10	3983.24	2910.00	73.25	31.76
407	10.34	3983.20	2905.00	81.20	35.10
408	8.00	3983.98	2900.00	82.99	35.96
409	7.76	3984.00	2895.00	96.01	41.34
410	8.08	3984.38	2889.00	97.00	42.37
411	10.36	3984.80	2883.00	101.02	44.16
412	10.39	3984.75	2875.00	109.76	47.86
413	8.00	3984.86	2875.00	109.89	47.27
414	8.09	3983.35	2878.00	108.21	46.94
415	8.04	3983.35	2886.00	97.39	42.18
416	8.08	3982.67	2886.00	96.69	41.89
417	8.08	3982.66	2874.00	108.86	47.89
418	21.02	3981.93	2874.00	109.93	46.77
419	8.00	3981.80	2886.00	99.96	43.56
420	35.90	3980.65	2886.00	95.49	41.41
421	32.92	3980.48	2878.00	106.46	46.14
422	29.72	3980.38	2878.00	106.38	46.14
423	28.67	3981.64	2886.00	95.62	41.35
424	41.36	3981.33	2879.00	95.33	41.36
425	42.05	3981.23	2879.00	104.23	46.06
426	10.34	3982.99	2913.00	92.99	35.80
427	27.67	3981.80	2913.00	93.80	35.64
428	32.14	3983.84	2913.00	93.84	35.65
429	35.66	4014.18	2915.00	99.16	42.97
430	35.65	4014.19	2915.00	99.19	42.97
431	41.16	4014.22	2965.00	89.22	33.61
432	9.05	3991.78	2965.00	85.78	32.24
433	8.00	3979.80	2968.00	82.80	31.71
434	8.07	4014.35	2915.00	66.35	27.94
435	8.00	4014.98	2945.00	69.98	33.38
436	8.00	4004.67	2955.00	74.67	28.69
437	6832.41	4013.83	2958.00	98.83	25.49
438	8.00	3976.78	2968.00	11.78	3.59
439	8.00	4013.36	2975.00	87.36	37.85
440	8.00	4004.46	2975.00	63.46	39.00
441	8.00	4012.63	2985.00	82.62	35.93
442	8.00	4013.25	2989.00	74.26	34.35
443	8.00	4014.84	2985.00	84.85	36.64
444	14.21	4014.4	2983.00	88.42	38.32
445	12.93	4164.01	2995.00	103.23	45.88
446	8.20	4007.43	6.35.00	89.83	38.00
447	8.00	4007.78	6.35.00	82.74	35.89
448	35.87	4007.65	6.37.00	89.85	34.35
449	132.77	4003.63	2987.00	97.85	42.31
450	389.18	4003.04	6.23.00	89.84	38.19
451	8.13	4002.13	6.28.00	72.13	31.24
452	1.02	4001.14	6.35.00	62.14	26.84
453	12.98	4001.12	6.20.00	71.22	30.86
454	187.41	4001.98	6.25.00	82.55	35.58
455	9.01	4002.17	6.35.00	87.17	34.17
456	8.04	4129.19	6.46.00	88.19	38.32
457	8.00	4094.20	6.46.00	84.23	37.82
458	8.04	4131.17	6.40.00	83.17	36.81
459	647.41	4131.04	6.59.00	80.96	31.08
460	8.00	4007.33	6.36.00	82.31	37.07
461	1.02	4132.03	6.53.00	49.47	21.04
462	0.00	4103.00	6.50.00	44.44	20.11
463	1.00	4130.32	6099.00	18.72	8.33
464	8.00	4127.02	6103.00	179.85	76.36
465	8.00	4111.00	6153.00	113.00	47.96
466	10.36	4111.32	6128.00	106.23	46.66
467	11.06	4111.00	6155.00	105.04	46.54
468	9.79	4111.26	6153.00	97.35	43.54
469	91.04	4112.01	6127.00	93.01	40.33

376	12.50	4269.94	4138.00	71.94	31.17	
377	5.17	4209.94	4195.00	89.94	25.97	
378	21.91	4209.94	4141.00	89.94	38.21	
379	25.50	4270.86	4103.00	95.66	41.19	
380	29.38	4270.20	4192.00	86.20	37.37	
381	233.78	3971.38	3871.00	101.20	43.91	
382	0.00	3991.71	3892.00	114.71	49.71	
383	1.36	3991.84	3871.00	109.84	47.60	
384	0.00	3991.03	3872.00	117.03	51.06	
385	0.00	3991.45	3878.00	113.45	50.93	
386	0.00	3991.71	3874.00	114.71	50.58	
387	0.00	3991.84	3878.00	113.84	49.90	
388	0.00	3991.97	3877.00	113.97	49.39	
389	0.00	3991.06	3873.00	114.00	50.30	
390	0.00	3991.60	3875.00	116.60	50.44	
391	0.00	3991.97	3873.00	117.97	51.15	
392	0.00	3991.11	3885.00	111.11	48.16	
393	0.00	3991.88	3883.00	111.88	48.34	
394	0.00	3991.66	3883.00	111.66	48.39	
395	0.00	3991.82	3889.00	106.82	46.29	
396	0.00	3991.67	3891.00	106.67	46.11	
397	0.00	3992.32	3887.00	105.32	45.64	
398	0.00	3992.23	3889.00	103.23	44.71	
399	0.00	3992.09	3889.00	103.09	44.66	
400	0.00	3991.97	3889.00	102.97	44.62	
401	0.00	3992.03	3894.00	98.03	42.49	
402	0.00	3992.09	3896.00	98.09	42.50	
403	0.00	3992.06	3896.00	96.06	41.62	
404	0.00	3992.09	3898.00	97.09	42.07	
405	0.00	3990.15	3895.00	97.15	42.10	
406	0.00	4067.00	3892.13	179.88	77.80	
407	0.00	4074.88	3955.00	186.20	80.71	
408	0.00	4070.78	3890.70	188.08	81.51	
409	0.00	3996.62	3883.00	113.62	49.24	
421	0.00	3804.34	3803.00	6.36	2.75	
422	0.00	3991.20	3966.10	25.10	10.91	
423	0.00	4184.45	3966.10	184.28	79.89	
424	0.00	4118.23	4099.50	18.72	8.11	
425	0.00	3817.96	3890.70	27.26	11.72	
426	1223.93	3990.21	3965.00	21.21	9.83	
430	0.20	3990.68	3965.20	16.48	6.28	
700	0.00	3993.60	3960.80	30.50	10.62	

MAXIMUM AND MINIMUM VALUES
PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURE (psig)	JUNCTION NUMBER	MINIMUM PRESSURE (psig)
118	8.79	82	-34.83
428	81.3	622	2.78
326	79.89	133	5.02
429	77.68	330	5.09
344	76.96	700	4.30

HEAD

PIPE NUMBER	MAXIMUM HEAD (ft/100)	PIPE NUMBER	MINIMUM HEAD (ft/100)
.69	148.69	376	0.0.
.68	132.83	422	0.00
638	82.62	623	0.00
639	69.87	721	0.00
378	53.87	379	0.00

REGULATING VALVE REPORT

ST LABEL	VALVE TYPE	POSITION MODE	CONTROLLED VALVE PIPE	VALVE SETTING (ft or psi)	VALVE STATUS	UPSTREAM GRADE (ft)	DOWNSTREAM GRADE (ft)	THROTTLED FLOW (gpm)
R1	PRV	1	344	447	4216.46	THROTTLED	4279.00	4318.60	319.76

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM FIXED GRADE NODES
(-) OUTFLOWS FROM THE SYSTEM INTO FIXED GRADE NODES

NODE LABEL	PIPE NUMBER	FLOWRATE (gpm)	NODE TITLE
CC	697	1883.69	Tank TC06
DD	699	-695.41	Tank TC08
EE	640	-1398.41	Tank T14:
FF	644	1672.41	Tank T14:
GG	669	329.70	Tank TT7A
II	810	6538.32	Tank 1310
JJ	820	6338.16	Tank 1210
KK	826	6282.39	Tank 1401, 91, 92
LL	830	700.49	Tank 1401

**** HYTIDE SIMULATION COMPLETED ****

DATE 07/12/94
TIME 16 49:03 02

APPENDIX I - Existing Storage Capacities

EXISTING WATER TANK DATA

Structure No.	Type	Capacity in Gallons	Year Built	Elevation	Location
129	Elevated Tank (steel)	150,000	1910		Fort Bliss
493	Elev Wtr Tank (steel)	500,000	1941	3883.10	Fort Bliss
1318	Gnd Stor Reserv (conc)	558,000	1917		Fort Bliss
1319	Gnd Stor Tank (conc)	500,000	1959	3875.77	Fort Bliss
3680	Gnd Stor Tank (steel)	1,500,000	1978		Desert Field
3691	Gnd Stor Tank (steel	194,000	1954	3800.00	Desert Field
3692	Gnd Stor Tank (steel)	194,000	1954	3890.00	Desert Field
3790	Elev Tank (steel)	100,000	1961		Tobin Wells
3794	Elev Tank (steel)	150,000	1972		Tobin Wells
4317	Gnd Stor Reserv (conc)	500,000	1940	3986.00	Logan Hts
4889	Gnd Stor Tank (steel)	712,000	1941	4200.40	Logan Hts
5300	Elevated Tank (steel)	1,500,000	1967		Fort Bliss
7068	Gnd Stor Tank (steel)	1,000,000	1932	3968.20	WBAMC
7090	Gnd Stor Tank (steel)	1,500,000	1959	3964.20	WBAMC
7241	Gnd Stor Tank (steel)	600,000	1930		WBAMC
7775	Gnd Stor Tank (steel)	1,000,000	1971	4137.90	WBAMC
11282	Elevated Tank (steel)	200,000	1949		Biggs
11146	Elevated Tank (steel)	750,000	1955	3915.17	Biggs
11172	Elevated Tank (steel)	600,000	1943		Biggs
11313	Elevated Tank (steel)	300,000	1967		Biggs

PT\01 [illegible] CHT

APPENDIX J - Probable Cost Estimates

COST ESTIMATING ANALYSIS
PROJECT: FORT BLISS WATER DISTRIBUTION SYSTEM
LOCATION: FORT BLISS, TEXAS
ALTER - ADDITIONAL STORAGE CAPACITY

INVITATION/CONTRACTOR
CODE.
25%

DRAWING NO:
ESTIMATOR: CLARK

SHEET OF
DATE PREPD 15-JUL-94
CHECKED BY: YOUNG

TASK DESCRIPTION HVAC	QUANTITY		LABOR				EQUIPMENT		MATERIALS		TOTAL
	NOUN	UNIT	MH/UN	HRS	UN PRICE	COST	UN PRICE	COST	UN PRICE	COST	COST
STORAGE TANK											
FOUNDATION:											
EXCAVATION	150	CY			5.88	882.00	3.88	582.00	0.00	0.00	1464.00
HAUL EARTH	150	CY			2.88	303.00	7.42	1113.00	0.00	0.00	1416.00
FOUNDATION BACKFILL	100	CY			3.88	380.00	4.40	440.00	0.00	0.00	820.00
COMPACTION	100	CY			4.88	480.00	5.88	580.00	5.88	580.00	1580.00
DRILLED PIERS	16	EA			88.87	1118.32	85.00	880.00	115.10	1865.60	3888.12
12" CONC. SLAB ON GRADE	4000	SF			5.58	22280.00	0.20	880.00	4.58	18360.00	41520.00
TANKS:											
.75 MIL GAL STEEL TANK	1	EA			53868.67	53868.67	23168.67	23168.67	113365.85	113365.85	1676.128
.25 MIL GAL STEEL TANK	1	EA			29483.33	29483.33	11583.33	11583.33	85880.00	85880.00	38948.67
PUMP:											
2000 GPM PUMP	1	EA			3800.00	3880.00	880.00	880.00	10810.00	10800.00	13760.00
8000 GPM PUMP	1	EA			4800.00	4880.00	880.00	880.00	14080.00	14080.00	13180.00
PIPING:											
18" DUCTILE IRON	3800	LF			12.38	48185.00			88.80	84888.00	188188.00
CONTROLS:											
SOFTWARE CHANGES	1	LS									8088.00

APPENDIX K - Miscellaneous Calculations

MAINTENANCE COST

ALTERNATIVE #2 – ADDITION OF STORAGE COST

A. PAINTING OF NEW TANKS EVERY 10 YEARS

DESCRIPTION	QUANTITY NO	UNIT	LABOR UNIT	LABOR TOTAL	MATERIAL UNIT	MATERIAL TOTAL	TOTAL
NEW TANKS	12000	SF	$0.24	$2,880	$0.19	$2,280	$5,160

B. ANNUAL CONTROLS MAINTENANCE (I.E. LEVEL SWITCHES, VALVES, ETC.)

DESCRIPTION	QUANTITY NO	UNIT	LABOR UNIT	LABOR TOTAL	MATERIAL UNIT	MATERIAL TOTAL	TOTAL
LABOR	16	HR	$25.75	$412	$0	$0	$412
MATERIALS	1	LS	$0.00	$0	$250	$250	$250
TOTAL							$662

C. TOTAL ANNUAL COST

TOTAL = $5,160 / 10 YEARS + $662 / YEAR

TOTAL = $1,178 / YR

APPENDIX L

Life Cycle Cost Calculations

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: FORT BLISS, TEXAS REGION NO. 3 PROJECT NO. 94127601F
PROJECT TITLE: FORT BLISS WATER DISTRIBUTION SYSTEM FISCAL YEAR 1994
DISCRETE PORTION NAME: ALTERNATIVE 2 - ADDITIONAL STORAGE CAPACITY
ANALYSIS DATE: 07/13/93 ECONOMIC LIFE 20 PREPARER S P. CLARK

1. INVESTMENT COSTS:

A. CONSTRUCTION COST	$558,932		
B. SIOH	$30,741		
C. DESIGN COST	$33,536		
D. TOTAL COST (1A+1B+1C)	$623,209		
E. SALVAGE VALUE OF EXISTING EQUIPMENT		$0	
F. PUBLIC UTILITY COMPANY REBATE		$0	
G. TOTAL INVESTMENT (1D-1E-1F			$623,209

2. ENERGY SAVINGS (+) COST(-):

DATE OF NISTIR 85-3273-X USED FOR DISCOUNT FACTORS: OCTOBER 1992

ENERGY SOURCE	COST $/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL $ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVINGS(5)
A. ELEC	$2.24	0	$0	14.68	$0
B. DIST			$0	17.70	$0
C. RESID			$0	20.89	$0
D. NG	$2.50	0	$0	20.60	$0
E. PPG			$0	13.58	$0
F. COAL			$0	16.32	$0
G. SOLAR			$0	13.59	$0
H. GEOTH			$0	13.59	$0
I. BIOMA			$0	13.59	$0
J. REFUS			$0	13.59	$0
K. WIND			$0	13.59	$0
L. OTHER			$0	13.59	$0
M. DEMAND SAVINGS			$67,697	13.59	$922,720
N. TOTAL		0	$67,697		$922,720

3. NON ENERGY SAVINGS (+) OR COST (-):

A. ANNUAL RECURRING (+/-)	-$1,170.0		
1. DISCOUNT FACTOR (TABLE A)		13.59	
2. DISCOUNTED SAVINGS/COST (3A X 3A1)			-$16,000

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

B NON RECURRING SAVINGS (+) OR COST(-)

	ITEM	SAVINGS(+) COST(-)(1)	YEAR OF OCCUR (2)	DISCOUNT FACTOR(3)	DISCOUNTED SAVINGS(+)COST(-)(4)
a		$0	1	0 95	$0
b		$0	2	0 92	$0
c		$0	3	0 89	$0
d		$0	4	0 85	$0
e		$0	5	0 82	$0
f		$0	6	0 79	$0
g		$0	7	0 76	$0
h		$0	8	0 73	$0
i		$0	9	0 7	$0
j		$0	10	0 68	$0
k		$0	11	0 65	$0
l		$0	12	0 62	$0
m		$0	13	0 6	$0
n		$0	14	0 56	$0
o		$0	15	0 36	$0
p	TOTAL	$0			$0

C TOTAL NON ENERGY DISCOUNTED SAVINGS (3A2 + 3Bp4) -$10,000

D SIMPLE PAYBACK (G/(2N3+3A+(3C or 1)/ECONOMIC LIFE)) 9.9 YEARS

E TOTAL NET DISCOUNTED SAVINGS (2N3+3C) $9C8,711

F SAVINGS TO INVESTMENT RATIO (SIR) (2/1) 1.45

G ADJUSTED INTERNAL RATE OF RETURN (AIRR) 6.0%

APPENDIX M - Scope of Work

Contractor must submit four copies of invoice | Expires Aug 31, 199_

...ublic reporting burden for this collection of information is estimated to average ... hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0187), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send your completed form to the procurement official identified in item 9.

1. CONTRACT/PURCHASE ORDER NO. DACA63-93-D-1509	2. DELIVERY ORDER NO.	3. DATE OF ORDER 09/01/93	4. REQUISITION/PURCHASE REQUEST NO. FEN-93-0003-0101	5. PRIORITY

6. ISSUED BY: CODE W45DAN	7. ADMINISTERED BY: CODE
US ARMY ENGINEER DISTRICT, FTW P O BOX 17300 819 TAYLOR STREET FORT WORTH, TX 76102-0300 POC: J.E. SOM PHONE (817)-334-3011	See Block 6

8. DELIVERY FOB [X] DEST [ ] OTHER (See Schedule)

9. CONTRACTOR: Vendor Id: 960800B9 CODE 95877 FACILITY CODE	10. DELIVER TO FOB POINT BY	11. MARK IF BUS. IS [X] SMALL [ ] SMALL DISADVANTAGED [ ] WOMEN-OWNED
NAME AND ADDRESS: CARTER & BURGESS INC 7000 HALEN STREET FORT WORTH, TX 76107-7254	12. DISCOUNT TERMS 0 % 0 Net 30	
	13. MAIL INVOICES TO See Block 15	

14. SHIP TO: CODE W45DAN US ARMY ENGINEER DISTRICT, FTW P O BOX 17300 819 TAYLOR STREET FORT WORTH, TX 76102-0300 20CA4N361259	15. PAYMENT WILL BE MADE BY: CODE P4YCF7 DISBURSING OFFICER/DESIGNATE US ARMY ENGINEER DISTRICT, FTW P O BOX 17300 FT. WORTH, T. 76102-0300	MARK ALL PACKAGES AND PAPERS WITH CONTRACT OR ORDER NUMBER

16. DELIVERY: This delivery order is issued on another Government A.D. form or in accordance with and subject to terms and conditions of above numbered contract.

17. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE: Reference your [illegible] furnish the following on terms specified herein.

18. ITEM NO. THE CONTRACTOR AGREES TO THE ITEMS SPECIFIED IN THIS ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR NOW IS MODIFIED SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH AND AGREES TO PERFORM THE SAME.

19. NAME OF CONTRACTOR	20. SIGNATURE	20C. TYPED NAME AND TITLE	20D. DATE SIGNED
(If this box is marked, supplier must sign Acceptance and return the following number of copies:			

21. ACCOUNTING AND APPROPRIATION DATA/LOCAL USE
[illegible] 2137020 SB 0375 P7120318.72 5A14A3 19 0C5033[illegible] 25 B27931209

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/SERVICE	20. QUANTITY ORDERED/ACCEPTED	21. UNIT	22. UNIT PRICE	23. AMOUNT
0001	PROVIDE AN ANALYSIS OF A BRANCH OF THE WATER DISTRIBUTION SYSTEM FOR FORT HOOD IN ACCORDANCE WITH THE ATTACHED SCOPE OF WORK. POINT OF CONTACT: RICHARD CHAPPELLE 817/334-3728		JB	$[illegible].00	$[illegible].00

If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.	24. UNITED STATES OF AMERICA BY: CONTRACTING/ORDERING OFFICER	25. TOTAL	$[illegible].00
		26. DIFFERENCES	

27a. QUANTITY IN COLUMN 20 HAS BEEN [ ] INSPECTED [ ] RECEIVED [ ] ACCEPTED AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED:	28. SHIP. NO.	29. D.O. VOUCHER NO.	30. INITIALS
	[ ] PARTIAL [ ] FINAL	31. PAID BY	32. AMOUNT VERIFIED CORRECT FOR
27b. SIGNATURE OF AUTHORIZED GOVERNMENT REP.	33. PAYMENT		[illegible]

13 MAY 1994

CARTER-BURGESS
3880 HULEN STREET
P.O.BOX 985006
FORT WORTH, TX.
76185-3006

Gentlemen:

Reference Purchase Order for the analysis of the Water Distribution System at Fort Bliss, TX.

You are hereby authorized to proceed as required under the scope of work for this project. Your Firm has been requested to submit a draft prefinal report, prior to submitting a final report for this study.

Should you have any questions, please contact Richard Champagne at (817)334-2750.

Sincerely,

Richard Champagne
Master Plng.
C.O.E., Mil. Br.
Fort Worth

Fort Bliss Water Distribution Study
Scope of Work and Assumptions

SCOPE OF WORK

1. Gather and compile data from Fort Bliss Public Works for the Water Distribution System which serves William Beaumont Army Medical Center (WBAMC).

2. Perform a site investigation to gather additional data.

3. Analyze and update the existing KY Pipe data files created by Texas A&M for a previous study.

4. Use the KY Pipe model (for the peak daily usage) to simulate the hours between 10:00 am and 9:00 pm to determine if the pumps serving WBAMC can be scheduled "off" during the p electrical usage period.

5. Based on the KY Pipe analysis and the assumptions listed below, calculate the construction cost, energy savings and life cycle cost for the additional storage capacity at WBAMC.

6. Provide the analysis results in a life cycle cost analysis report complete with recommendations.

LIST OF ASSUMPTIONS

1. WBAMC is the most critical branch of the entire water distribution system based on observations of Fort Bliss Public Works.

2. Fort Bliss Public Works will provide the A/E with the KY Pipe data files as well as twelve months of historical hourly pumping data (on disk) for all of the well and distribution pumps for the WBAMC water distribution system.

3. A/E will adjust the historical data to reflect the added consumption from three residential areas and Logan Heights based on "typical" capacity and demand for noted usage. Also, a reasonable safety factor will be added (ie. 10-15%).

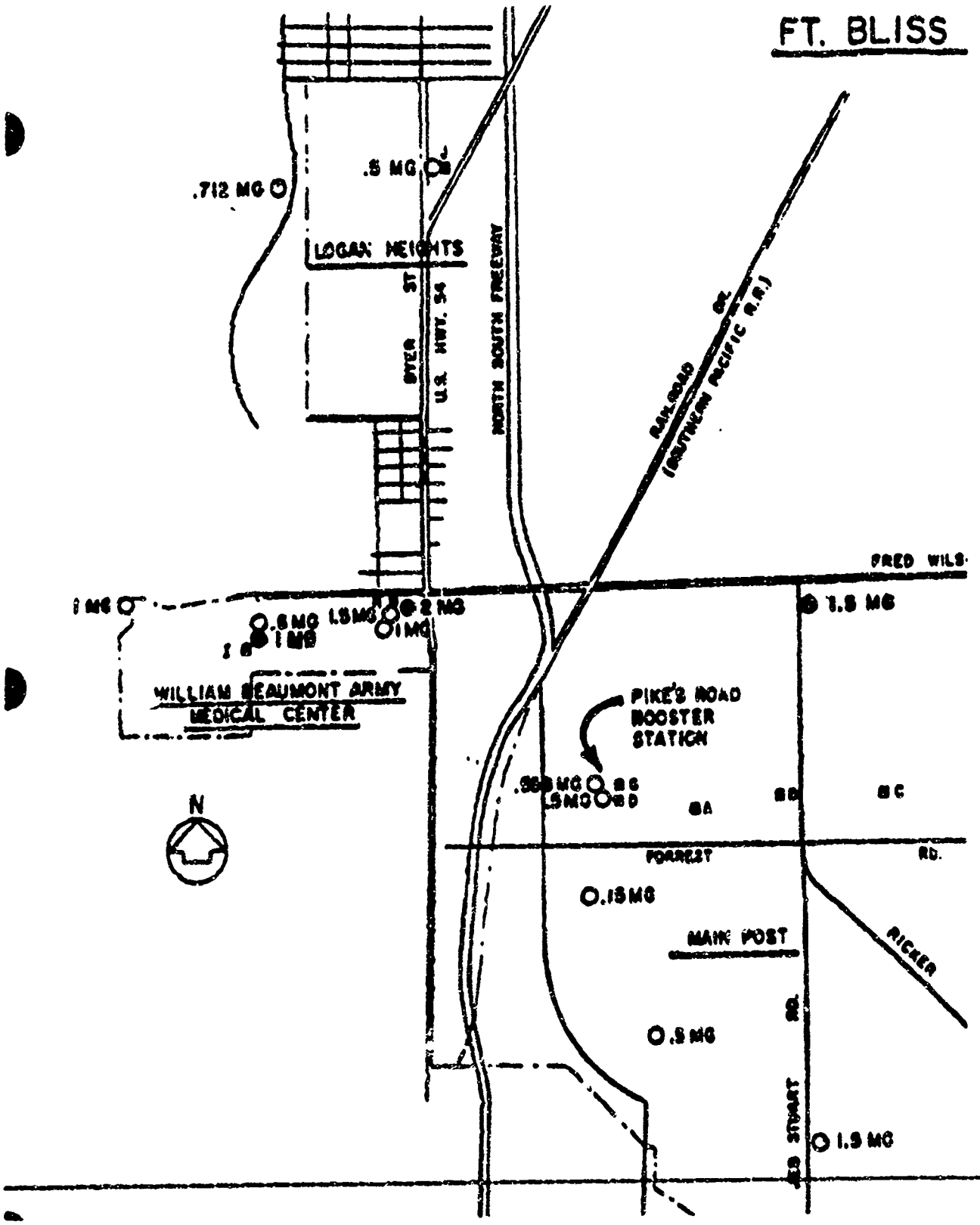
4. Fort Bliss Public Works will provide the A/E with drawings of the WBAMC water distribution system, including location and sizes for all pumps and piping, as well as tank locations and elevations.

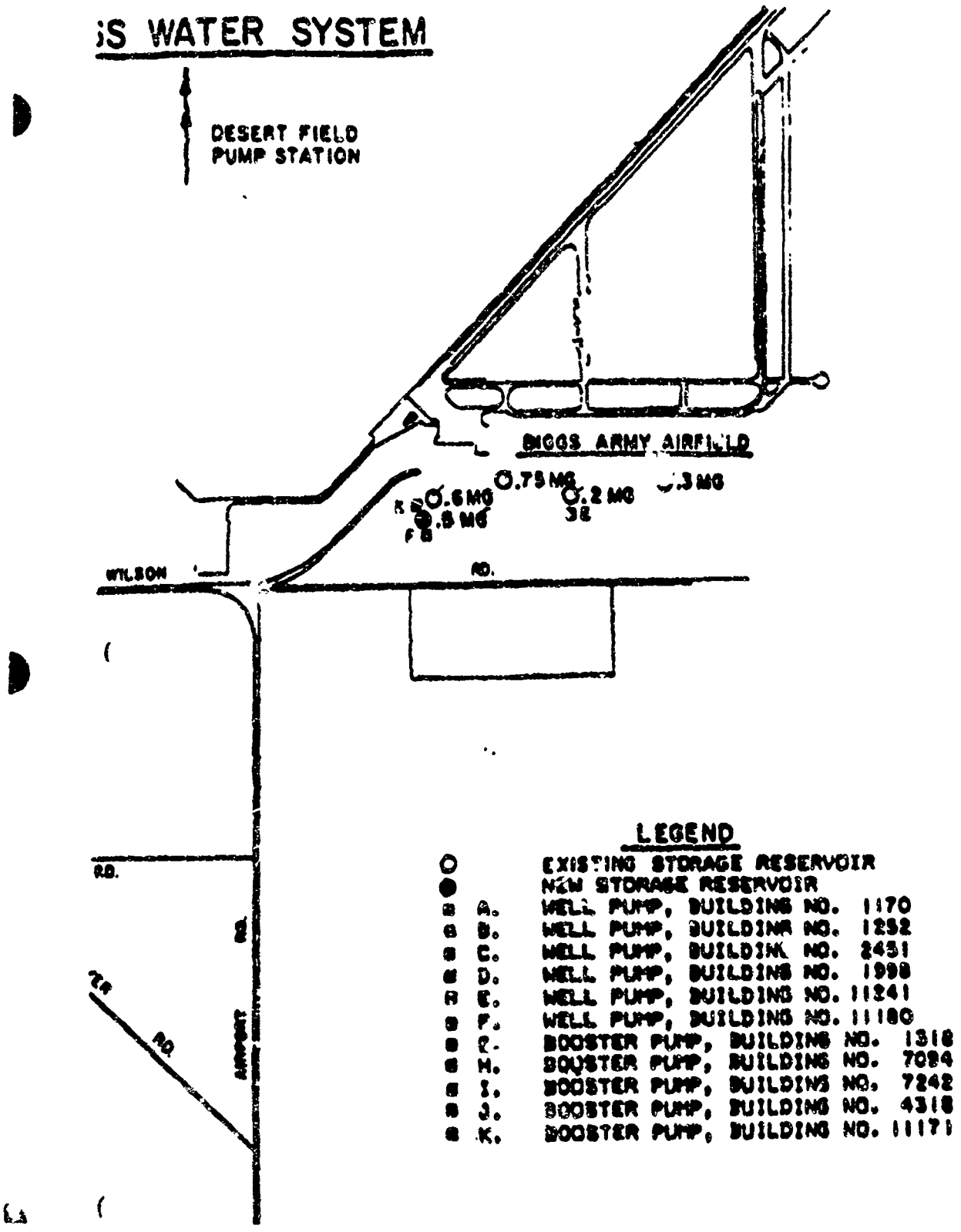
5. Fort Bliss Public Works will provide the A/E with lowest acceptable tank water levels to maintain fire flows and dilution requirements for the tanks associated with WBAMC.

Fort Bliss Water Distribution Study
Scope of Work and Assumptions

6. Using the tank level information and the pumping run time and capacity data, the A/E will calculate the average hourly draw down rate for each tank for use in the KY Pipe analysis.

APPENDIX N - Map


FT. BLISS
.712 MG
.5 MG
LOGAN HEIGHTS
ST
BYZA
U.S. HWY. 54
NORTH SOUTH FREEWAY
RAILROAD
(SOUTHERN PACIFIC R.R.)
FRED WILS
1 MG
.5 MG
1.5 MG
2 MG
1 MG
1 MG
WILLIAM BEAUMONT ARMY
MEDICAL CENTER
PIKE'S ROAD
BOOSTER
STATION
.5 MG
1.5 MG
8A
8B
8C
N
FORREST
RD.
0.15 MG
MAIN POST
RICKER
RD.
0.5 MG
JEB STUART
1.5 MG


;S WATER SYSTEM
DESERT FIELD
PUMP STATION
BIGGS ARMY AIRFIELD
0.75 MG
0.6 MG
0.5 MG
0.2 MG
WILSON
RD.
RD.
RD.
AIRPORT
LEGEND
EXISTING STORAGE RESERVOIR
NEW STORAGE RESERVOIR
A. WELL PUMP, BUILDING NO. 1170
B. WELL PUMP, BUILDING NO. 1252
C. WELL PUMP, BUILDING NO. 2451
D. WELL PUMP, BUILDING NO. 1998
E. WELL PUMP, BUILDING NO. 11241
F. WELL PUMP, BUILDING NO. 11180
G. BOOSTER PUMP, BUILDING NO. 1318
H. BOOSTER PUMP, BUILDING NO. 7084
I. BOOSTER PUMP, BUILDING NO. 7242
J. BOOSTER PUMP, BUILDING NO. 4318
K. BOOSTER PUMP, BUILDING NO. 11171

APPENDIX O

Symbols, Abbreviations and Conversion Factors

SYMBOLS AND ABBREVIATIONS

KW	- Kilowatt (1,000 watts)
KWH	- Kilowatt-hour (1,000 watt-hours)
CF	- Cubic Feet
KCF	- 1,000 Cubic Feet
MCF	- 1,000,000 Cubic Feet
BTU	- British Thermal Unit
KBTU	- 1,000 BTUs
MBTU	- 1,000,000 BTUs

CONVERSION FACTORS

1 KWH	= .003413 MBTU
1 KCF	= 1.031 MBTU

APPENDIX N - DD Form 1391

1 COMPONENT	FY 1994 MILITARY CONSTRUCTION PROJECT DATA	2 DATE
ARMY		Aug. 1994

3 INSTALLATION AND LOCATION	4 PROJECT TITLE
Fort Bliss, El Paso, Texas	Water Distribution Energy Retrofit

5 PROGRAM ELEMENT	6 CATEGORY CODE	7 PROJECT NUMBER	8 PROJECT COST CODE
	80000		623

9 COST ESTIMATES

ITEM	UNIT	QUANTITY	UNIT COST	COST ($000)
Additional water storage tanks	Gal	1,000,000	.559	559
Subtotal				559
Contingency (5%)				28.9
Total Contract Cost				587.9
SIOH (6.0%)				35.3
Total Request				623.2
Total Request Rounded				623
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS				

10. DESCRIPTION OF PROPOSED CONSTRUCTION:

The water distribution retrofit at Fort Bliss consists of installing 1 million gallons of additional storage capacity to eliminate the need to operate the distribution and well pumps during peak electrical periods. The retrofit system results in a discounted payback period of 9.3 years A Savings To Investment Ratio (SIR) of 1.45 and an Adjusted Rate of Return (AIRR) of 6%.

11. REQUIREMENTS:

Refer to attached for additional information.

I. System Description

The existing water distribution system consists of 17 well pumps and 5 booster pumping stations. The desert field well and booster pumps were not included in this study due to their remote location. The well and booster pumps provide water supply to several ground elevated storage tanks located across the reservation (Refer to Appendix N for map indicating general locations). These storage tanks are located to provide three pressure zones. The upper pressure zone is maintained by a one million gallon tank. The intermediate pressure zone is maintained by a 0.6 million gallon tank. Pressure in the lower zone is maintained by three (3) elevated storage tanks.

II. Analysis Of Present Energy Consumption

In order to establish the energy consumption of the existing water distribution system, El Paso Electric supplied 30-minute measured KW demand values as well as utility bills for the entire base for the period from September 1991 through August 1992 (Refer to Appendix B for this data). This data was used to determine the peak electrical demand day for the entire base which El Paso Electric utilizes for billing purposes each month. Next, the Williams Electric Automated Control System was utilized to download the pump run-time data for each pump, for each of the peak days during the 12-month period previously identified (Refer to Appendix E for this data). Using the run-time data and the KW demand for each pump, the total pumping system electrical demand was calculated and subtracted from the base electrical demand and plotted with the total base demand (Refer to Appendix C for these graphs). These graphs represent the maximum demand savings possible through modification of the water distribution system. These graphs were then used to determine the maximum peak shaving potential, and the most advantageous operating period for the peak shaving methods. Example energy calculations along with a narrative description are included in Appendix D. The total peak shaving potential for the pumping system was determined to be 3,158 KW/YR (Refer to Appendix E for calculations). The most advantageous period for peak shaving is between 10:00 a.m. and 3:00 p.m. daily (Refer to Appendix C).

III. Analysis of Present Water Consumption

A. Purpose

The purpose of the water distribution system modeling was to determine the additional water storage requirements needed to operate the system with distribution and well pumps turned-off during the hours of 10:00 am to 3:00 pm.

B. Proposed Water Demands

Existing pumping records for distribution and well pumps for the periods between March 1993 and February 1994 for the Fort Bliss and William Beaumont Army Medical Center (WBAMC) systems were analyzed. The well pumping data was utilized to represent the average daily demand. The average day well pumpage rate was 3.21 MGD. The peak day well pumpage occurred on June 16, 1993 and was 6.95 MGD. Hourly pumping records were unavailable for the wells and distribution system pumps.

Tank level information was not available. It is reasonable to assume the average daily and peak day pumpage corresponds to the water demands within the system. Hourly records of pumping or tank levels are not available. Hourly electrical power usage by pump (from Energy Engineering Analysis Program report prepared by Carter and Burgess, dated February 1993) was used to evaluate the diurnal water demands. The peak day pumping records for July 23, 1992 are presented in the table contained in Appendix F. A graph of the diurnal demand for July 23, 1992 is also contained in Appendix F. The maximum hour usage occurred at 10:00 pm.

C. Analysis

The KY pipe computer file for the base model was supplied by Fort Bliss and was developed for a previous study performed by Texas A&M University in March of 1991. The total peak day demand in the modeling was 11.13 MGD. The base file with the 11.13 MGD peak day demand was modified to reflect future growth in the water system. Point source demands for the Van Horn and Logan Heights Additions were added to the model. The peak day water consumption used for Van Horn and Logan Heights are 0.80 MGD and 1.95 MGD respectively. Also, the water demand at the Hospital was increased by 25 percent. The total peak day demand model was 13.89 MGD.

Several different demand conditions were modeled with the Fort Bliss water distribution system model for steady state conditions including:

- Peak Day Demands
- Peak Day Demands with all pumps off
- Maximum Hour Demands (using a 1.7 peak day to maximum hour ratio)
- Tank Filling during Low Demand Periods (using a 0.70 peak day to late evening/early morning demand ratio)

For the demand conditions listed above several scenarios were evaluated to further refine the system. Peak day and maximum hour demands were modeled with existing pumping capabilities and proposed pumping

replacements. Several iterations were performed for the tank filling scenario to evaluate the existing pumps and the ability of the system to fill the tanks and provide supply to the system. From analysis of the computer modeling and calculations it was determined that additional pumping and storage capacity would be necessary to operate the system as proposed.

D. Results

Additional water storage capacity of 0.75 MG is recommended in the vicinity of Tanks 7241, to supply the upper pressure plane with ground storage and provide elevated storage to the middle pressure plane. Additional water storage capacity is recommended in the vicinity of Tanks 7090/7088, to provide ground water supply to the middle pressure plane in the event supply from the lower pressure plane is interrupted. Interruption of the supply could include a broken pipeline, inoperative pumps, or if supply to the lower pressure plane was temporarily interrupted.

Additional pumping of 1200 gpm is needed to refill the proposed tank near Tank 7241. Since no pumping will occur during the hours of 10:00 am to 3:00 pm, the meeting of the domestic demands as well as filling of storage tanks is required in the remaining hours. In order to refill all the elevated storage in the lower pressure plane and Tanks 7090/7088 and the proposed .25 MG tank and additional pumping of 3500 gpm is required at the Pike Pump Station.

A summary of the recommended water system capital improvements required for electrical peak shaving is listed in the table below.

Summary of Capital Improvements for Water Distribution System	
Improvement	**Location**
New 0.75 MG Storage Tank	Middle Pressure Plane (near tank 7241)
Replacement of pump #2 with 2800 gpm pump	WBAMC Station #7242
Replacement of 10" line with 12" line (approx 3300 LF)	Service line from 7090 to 7241
New .25 MG Storage Tank	Middle Pressure Plane (near tanks 7088/7090)
Replacement of pump #2 with 5800 gpm pump	Pike Station #1318

IV. Analysis Of Energy Conservation Opportunities (ECO's)

A. Increase Storage Capacity (Alternative #2)

The addition of 1.0 million gallons of storage tank capacity was analyzed. The existing storage capacities for all of the tanks at Fort Bliss are listed in Appendix F. The size and location of the new storage tanks were based on the results of the KY pipe analysis discussed and are as follows:

WBAMC:	Middle	.75 MG
	Lower	.25 MG
Total		1.0 MG

This additional storage capacity will allow the well and booster pumps to be shut-off during on-peak utility periods. The existing Williams Electric Control system would be utilized to disable the pumps during specified peak periods. Software changes only would be required to accomplish the added functions using the existing control system.

V. Conclusions

The results of this study indicate that increased storage capacity for the Fort Bliss Water Distribution System will result in an SIR of 1.45, a simple payback of 9.3 years and an negative Adjusted Internal Rate of Return (AIRR) of 6.0%.

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: FORT BLISS, TEXAS REGION NO. 6 PROJECT NO. 84127601F
PROJECT TITLE: FORT BLISS WATER DISTRIBUTION SYSTEM FISCAL YEAR 1994
DISCRETE PORTION NAME: ALTERNATIVE 2 -- ADDITIONAL STORAGE CAPACITY
ANALYSIS DATE: 07/12/93 ECONOMIC LIFE 20 PREPARER S. P. CLARK

1. INVESTMENT COSTS:

A. CONSTRUCTION COST	$556,932		
B. SIOH	30,741		
C. DESIGN COST	83,536		
D. TOTAL COST (1A+1B+1C)	$623,209		
E. SALVAGE VALUE OF EXISTING EQUIPMENT		$0	
F. PUBLIC UTILITY COMPANY REBATE		$0	
G. TOTAL INVESTMENT (1D-1E-1F)			$623,209

2. ENERGY SAVINGS (+)/COST(-):

DATE OF NISTIR 85-3273-X USED FOR DISCOUNT FACTORS: OCTOBER 1992

ENERGY SOURCE	COST $/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL $ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVINGS(5)
A. ELEC	$8.24	0	$0	14.06	$0
B. DIST			$0	17.70	$0
C. RESID			$0	20.06	$0
D. NG	$2.50	0	$0	20.00	$0
E. PPG			$0	13.59	$0
F. COAL			$0	18.33	$0
G. SOLAR			$0	13.59	$0
H. GEOTH			$0	13.59	$0
I. BIOMA			$0	13.59	$0
J. REFUS			$0	13.59	$0
K. WIND			$0	13.59	$0
L. OTHER			$0	13.59	$0
M. DEMAND SAVINGS			$97,597	13.59	$922,720
N. TOTAL		0	$97,597		$922,720

3. NON ENERGY SAVINGS (+) OR COST (-):

A. ANNUAL RECURRING (+/-)	-$1,178.0		
1. DISCOUNT FACTOR (TABLE 2)		13.59	
2. DISCOUNTED SAVINGS/COST (3A X 3A1)			-$16,009

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

B. NON RECURRING SAVINGS (+) OR COST(-)

	ITEM	SAVINGS(+) COST(-)(1)	YEAR OF OCCUR.(2)	DISCOUNT FACTOR(3)	DISCOUNTED SAVINGS(+)COST(-)(4)
a.		$0	1	0.96	$0
b.		$0	2	0.92	$0
c.		$0	3	0.88	$0
d.		$0	4	0.85	$0
e.		$0	5	0.82	$0
f.		$0	6	0.79	$0
g.		$0	7	0.76	$0
h.		$0	8	0.73	$0
i.		$0	9	0.7	$0
j.		$0	10	0.68	$0
k.		$0	11	0.65	$0
l.		$0	12	0.62	$0
m.		$0	13	0.6	$0
n.		$0	14	0.58	$0
o.		$0	15	0.56	$0
p.	TOTAL	$0			$0

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (3A2 + 3Bp4) -$15,000

4. SIMPLE PAYBACK (2N/2N3 > 3A + (3Bp1/(ECONOMIC LIFE)): 8.2 YEARS

5. TOTAL NET DISCOUNTED SAVINGS (2N5 + 3C): $905,711

6. SAVINGS TO INVESTMENT RATIO (SIR) (4/1): 1.45

7. ADJUSTED INTERNAL RATE OF RETURN (AIRR): 8.0%

COST ESTIMATING ANALYSIS
PROJECT: FORT BLISS WATER DISTRIBUTION SYSTEM
LOCATION: FORT BLISS, TEXAS
ALT#2 - (OPTIONAL STORAGE CAPACITY

DIV/STATION/CONTRACTOR
CODE:
80%

DRAWING NO:
ESTIMATOR: CLARK

SHEET OF
DATE PREPD: 15-Aug-94
CHECKED BY: YOUNG

TASK DESCRIPTION HVAC	QUANTITY		LABOR				EQUIPMENT		MATERIALS		TOTAL
	NOUN	UNIT	MH/UN	HRS	UN PRICE	COST	UN PRICE	COST	UN PRICE	COST	COST
STORAGE TANK											
FOUNDATION:											
EXCAVATION	180	CY			5.00	852.00	3.00	852.00	0.00	0.00	1404.00
HAUL EARTH	180	CY			3.00	520.00	7.43	1119.00	0.00	0.00	1422.00
FOUNDATION BACKFILL	100	CY			3.00	300.00	4.40	440.00	0.00	0.00	660.00
COMPACTION	100	CY			4.00	400.00	5.00	500.00	0.00	000.00	1300.00
DRILLED PIERS	18	EA			65.97	1119.52	55.00	990.00	119.10	1986.00	3905.12
12" CONC. SLAB ON GRADE	4000	SF			9.00	36000.00	0.50	000.00	4.58	18330.00	41330.00
TANKS:											
.75 MIL. GAL. STEEL TANK	1	EA			00000.07	00000.07	32100.07	32100.07	113468.00	113585.00	197785.20
.25 MIL. GAL. STEEL TANK	1	EA			35482.36	35482.36	11963.13	11963.36	00000.00	00000.00	82940.47
PUMP:											
3500 GPM PUMP	1	EA			0000.00	0000.00	000.00	000.00	10000.00	10000.00	13700.00
5000 GPM PUMP	1	EA			4000.00	4000.00	000.00	000.00	14000.00	14000.00	19180.00
PIPING:											
12" DUCTILE IRON	3300	LF			12.00	40700.00			10.00	04000.00	100100.00
CONTROLS:											
SOFTWARE CHANGES	1	LS									0000.00
SUBTOTAL						3139,000		000,000		3370,342	0471,612
BEANS MODIFIED(99.3%)											0440,007
OVERHEAD & PROFIT						00.00%					004,701
CONTINGENCY (3%)						0.00%					000,102
Total Costs											0000,000